CSA INTERNATIONAL

Certificate of Compliance

Certificate: 1412920 (LR 109596) **Master Contract:** 163762

Project: 1412920 **Date Issued:** August 7, 2003

Issued to: **Marc Climatic Controls Incorporated**
P.O. Box 218309
Houston, TX 77218
USA
Attention: Mr. John W. Kinsel

The products listed below are eligible to bear the CSA Mark shown

C US

Issued by: E. Klier, P. Eng.

Authorized by: Nick Alfano
Operations Manager

PRODUCTS

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations
CLASS 2258 82 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations - CERTIFIED TO U.S. STANDARDS

Class 1, Division 2, Groups B, C, and D:

- Series WCBX wall mount air conditioners, with or without electric heat, 60Hz and/or 50Hz. Temp Code T3B or T3C (without electric heat). Temp Code T2A or T3 (with electric heat).

Optional suffix for electric heat – H
Optional suffix for steam heat – stm
Optional suffix for auxiliary blower – AB

Class 1, Division 1, Groups C and D:

- Series WCBX-C1 wall mount air conditioners, 60Hz and/or 50Hz. Temp Code T3B or T3C.

Optional suffix for steam heat - stm
Optional suffix for auxiliary blower – AB

Class 1, Division 2, [illegible] ection) and
Class 1, Division 2, Groups C and D (outdoor section):

- Series WCBX-C12 wall mount air conditioners, 60Hz and/or 50Hz. Temp Code T3B or T3C.

  Optional suffix for steam heat – stm
  Optional suffix for auxiliary blower - AB

Class 1, Division 2, Groups B, C and D (outdoor section only):

- Series WCXG wall mount air conditioners with or without electric heat, 60Hz and/or 50Hz. Temp Code T3C (outdoor section).

Optional suffix for electric heat – G

Class 1, Division 2, Groups B, C and D (pressurization system and outdoor section):

- Series WCPX-GB2 wall mount air conditioner/pressurizer combination unit, with or without electric heat, 60Hz, and/or 50Hz. Temp Code T2D or T3C (pressurization system and outdoor section).

Optional suffix for electric heat – G

Class 1, Division 2, Groups C and D (pressurization system and outdoor section):

- Series WCPX-GC2 wall mount air conditioner/pressurizer combination unit, with or without electric heat, 60Hz and/or 50Hz. Temp Code T3B or T3C (pressurization system and outdoor section).

Optional suffix for electric heat – G

Class 1, Division 2, Groups B, C, and D:

- Series WCPX-HB2 wall mount air conditioner/pressurizer combination unit, with or without electric heat, 60Hz and/or 50Hz. Temp Code T2D or T3C (without heat option). Temp Code T2A or T3C (with electric heat).

Optional suffix for electric heat – H

Class 1, Division 2, Groups C and D:

- Series WCPX-HC2 wall mount air conditioner/pressurizer combination unit, with or without electric heat, 60Hz and/or 50Hz. Temp Code T3B or T3C (without heat option). Temp Code T2A or T3 (with electric heat).

Optional suffix for electric heat - H

Certificate: 1412920 **Master Contract:** 163762
Project: 1412920 **Date:** August 7, 2003

APPLICABLE REQUIREMENTS

CSA Std C22.2 No.	30-M1986	- Explosion-Proof Enclosures for Use in Class I Hazardous Locations
CSA Std C22.2 No.	213-M1987	- Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
UL Std No.	1203	- Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations
UL Std No.	1604	- Electrical Equipment for Use in Class I and II, Division 2; Class III Hazardous (Classified) Locations
CAN/CSA-C22.2 No.	236-95	- Heating and Cooling Equipment
UL Std No.	1995	- Heating and Cooling Equipment

MARKINGS

- Company name
- Model number
- Serial number
- Electrical rating
- Hazardous locations designation
- CSA Monogram with "CSA/C/US" indicator
- Temperature code rating
- Refrigeration type
- Caution re keeping cover tight while circuits are live
- Caution re substitution of components

CSA INTERNATIONAL

Supplement to Certificate of Compliance

Certificate: 1412920 (LR109596) **Master Contract:** 163762

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
1412920	August 7, 2003	Original Certification.

CSA INTERNATIONAL

Descriptive and Test Report

MASTER CONTRACT: 163762
REPORT: 1412920
PROJECT: 1412920

Edition 1: August 7, 2003; Project 1412920 - Toronto
Issued by E. Klier, P. Eng.

Contents: Certificate of Compliance - Page 1 to 2
Supplement to Certificate of Compliance – Page 1
Description and Tests – Pages 1 to 11

PRODUCTS

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations
CLASS 2258 82 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations - CERTIFIED TO U.S. STANDARDS

APPLICABLE REQUIREMENTS

CSA Std C22.2 No.	30-M1986	- Explosion-Proof Enclosures for Use in Class I Hazardous Locations
CSA Std C22.2 No.	213-M1987	- Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
UL Std No.	1203	- Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations
UL Std No.	1604	- Electrical Equipment for Use in Class I and II, Division 2; Class III Hazardous (Classified) Locations
CAN/CSA-C22.2 No.	236-95	- Heating and Cooling Equipment
UL Std No.	1995	- Heating and Cooling Equipment

178 Rexdale Boulevard, Toronto, ON, Canada M9W 1R3
Telephone: 416.747.4000 1.800.463.6727 Fax: 416.747.4149 www.csa-international.org

MARKINGS

As per 0704 - WCBXSC-T Rev 0
0704 – WCXG-T2 Rev 0
0704 – WCPX HC2-T Rev 0

ALTERATIONS

None.

FACTORY TESTS

1. The equipment at the conclusion of manufacture and before shipment, shall withstand for one min, without breakdown, the application of the following ac potentials:

   (a) 1000V for equipment rated 250V or less, and 1000V plus twice rated voltage for equipment rated at more than 250V between low voltage live parts and the enclosure if such circuits leave or enter the enclosure;

   (b) 1000V for equipment rated 250V or less, and 1000V plus twice rated voltage for equipment rated at more than 250V between live parts of low and extra-low voltage circuits and different low voltage circuits if such circuits leave or enter the enclosure;

   (c) 500V between extra low potential live parts and exposed non-current-carrying metal parts or ground terminal, if such circuits leave or enter the enclosure.

2. A transformer, if provided, shall withstand for one min without breakdown, the application of an ac potential of l000V plus twice the max voltage of the winding applied between each winding and all other windings, the core, and the enclosure; except that if the max voltage of a winding does not exceed 30V, the test voltage may be reduced to 500V ac for that winding. Ungrounded metallic shields are to be treated as windings when performing these dielectric strength tests.

Notes:

1. As an alternative, potentials 20 percent higher may be applied for one second.
2. Where it is more convenient to do so, the dielectric strength tests may be made by applying a direct current voltage instead of an ac voltage, provided that the voltage used is 1.414 times the values specified above.
3. Capacitors in the secondary circuit may be disconnected during the dielectric strength tests specified in Items 1(a) to (c).
4. The test specified in Item 1(c) shall be waived on grounded or Class 2 circuits.
5. Transformer manufacturer's agreement to perform Test No 2 will be acceptable. Also, this test shall be waived on Certified transformers.

Warning: The factory test(s) specified may present a hazard of injury to personnel and/or property and should only be performed by persons knowledgeable of such hazards and under conditions designed to minimize the possibility of injury.

DESCRIPTION

General:

This report covers the following products for different hazardous location classifications:

A) Wall-mount air conditioner Model WCBX series

B) Wall-mount air conditioner Model WCXG series

C) Wall-mount air conditioner/pressuirzer combinations Model WCPX series

All these products are UL listed air conditioner units modified in order to be suitable for the corresponding hazardous location classifications.

A) Wall-mount air conditioner Model WBCX series:

Description: This unit is for Division 2 hazardous location in both the interior and exterior sections. Certification is for Class 1, Division 2, Groups B, C, D.

A UL listed Bard or Sun air conditioner is used as the base unit and the controls are replaced and/or rearranged/moved and some into an explosion proof enclosure or on an intrinsically safe circuit. Optional finned-tubular electric heat elements may added. The air conditioning process was not altered.

Compressors:

a) Be full hermetic type.
b) Be either reciprocating (piston), rotary, or scroll type.
c) Be for R22, R134a, R407C, or similar refrigerant.
d) Show the correct operating voltage, phase, and hertz.
e) Show a locked rotor current.
f) Have terminal protective cover with weatherproofing gasket.

Compressor Overload Protection:

a) Located inside compressor, no modification required.
b) One hermetically sealed thermo protector (CTCO) strapped to the discharge line of the compressor (the potentially hottest spot).

Fan Motors:

a) Contain no arcing devices such as centrifugal switches or brushes.
b) Show the correct operating voltage, phase, and hertz,
c) Show the full load amps,
d) Have an internal overload (normally) before our modification (except for TEFC motors that contain no overloads),
e) Show the manufacture's name and model or catalog number, and
f) TEFC motor cooling fans must be non-sparking metallic or conductive plastic.

The existing Fan Motor internal overload protection is replaced by:

a) A remote overload relay to detect excessive current which is placed inside the explosion proof enclosure, and,
b) A hermetically sealed thermo protector (TCO) is secured to the motor winding to detect over temperature (except for TEFC motors).

Wiring:

a) Certified wires with proper insulation temperature code. Thermo protector (CTCO) mounted on the compressor discharge line to be wired with wires rated 125°C min.
b) Intrinsically safe wiring to be properly separated from non-intrinsically safe wiring.

Grounding: All metallic non-current-carrying parts are properly bonded and connected to a central ground.

Conduit Entry: A 3/4 (min) NPT conduit entry is provided for customer wiring.

Fuses: Fuses must be of the "nonindicating, filled, current-limiting" type.

Arc Producing Devices: All arc producing devices will be housed inside an explosion proof enclosure.

Wall Mount Air Conditioners, WCBX-C1 Series:

This unit is for Division 1 hazardous location in both the interior and exterior sections. Certification is for Class 1, Division 1, Groups C, D.

A UL listed Bard, Sun or equivalent air conditioner is used as the base unit and the controls are replaced and/or rearranged/moved and into an explosion proof enclosure or on an intrinsically safe circuit. The compressor in some units is replaced with another certified one with the same capacity so as to allow modification with a conduit body for wiring. The motors are replaced with explosion proof ones. The air conditioning process was not altered.

Compressors:

a) Be full hermetic type.
b) Be either reciprocating (piston), rotary, or scroll type.
c) Be for R22, R134a, R407C, or similar refrigerant.
d) Show the correct operating voltage, phase, and hertz.
e) Show a locked rotor current.
f) Have an internal overload, and
g) Division 1 compressors are modified with a welded conduit body over the terminals and are hydrostatically pressure tested to 580 PSI.

Overload Protection:

a) Located inside compressor.
b) One thermo protector (CTCO) on an intrinsically safe circuit and strapped to the discharge line of the compressor (the potentially hottest spot).

Fan Motors:

a) Motors will be explosion proof for Class 1, Groups C and D.
b) Show an operating temperature of T3B o T3C,
c) Show the correct operating voltage, phase, and hertz,
d) Show the full load amps,
e) Show the manufacture's name and model or catalog number, and,
f) Have an internal overload (normally).

Wiring:

a) The wiring method will be MI Cable, rigid conduit system, or other acceptable methods.
b) Thermo protector (CTCO) on an intrinsically safe circuit and strapped to the compressor discharge line to be wired with wires rated 125°C min.
c) Intrinsically safe wiring to be properly separated from non-intrinsically safe wiring.

Grounding: All metallic non-current-carrying parts are properly bonded and connected to a central ground. The bonding to the motors and compressor(s) is completed with the copper tubing of the MI cable.

Conduit Entry: A 3/4 (min) NPT conduit entry is provided for customer wiring.

Arc Producing Devices: All arc producing devices will be housed inside an explosion proof enclosure.

Wall Mount Air Conditioners, WCBX-C12 Series:

This unit is for Division 1 hazardous location in the interior section, and Division 2 in the exterior section. Certification is for Class 1, Division 1, Groups C, D in the evaporator (indoor) section, and for Class 1, Division 2, Groups C, D condenser (outdoor) section.

A UL listed Bard, Sun or equivalent air conditioner is used as the base unit and the controls are replaced and/or rearranged/moved and some into an explosion proof enclosure or on an intrinsically safe circuit. The evaporator (indoor) motor is replaced with an explosion proof one if mounted inside the unit or can be TEFC if mounted on the outside of the unit. The air conditioner process was not altered.

Compressors:

a) Be full hermetic type.
b) Be either reciprocating (piston), rotary, or scroll type.
c) Be for R22, R134a, R407C, or similar refrigerant.
d) Show the correct operating voltage, phase, and hertz.
e) Show a locked rotor current.
f) Have an internal or external overload, and
g) Have terminal protective cover with weatherproofing gasket.

Compressor Overload Protection:

a) Located inside compressor.
b) One hermetically sealed thermo protector (CTCO) strapped to the discharge line of the compressor (the potentially hottest spot).

Indoor Fan Motors:

a) Motors will be explosion proof for Class 1, Groups C and D,
b) Show an operating temperature of T3B or T3C,
c) Show the correct operating voltage, phase, and hertz,
d) Show the full load amps,
e) Show the manufacturer's name and model or catalog number, and
f) Have an internal overload (normally).

Outdoor Fan Motors:

a) Show no arcing devices such as centrifugal switches or brushes.
b) Show the correct operating voltage, phase, and hertz.
c) Show the full load amps,
d) Have an internal overload (normally) before our modification (except for TEFC motors that contain no overloads),
e) Show the manufacture's name and model or catalog number, and
f) TEFC motor cooling fans must be non-sparking metallic or conductive plastic.
g) A remote overload relay to detect excessive current which is placed inside the explosion proof enclosure, and,
h) A hermetically sealed thermo protector (TCO) is secured to the motor winding to detect over temperature (except for TEFC motors).

Wiring:

a) The indoor wiring method will be MI Cable, rigid conduit system, or other acceptable Method.
b) Certified wires with proper insulation temperature code. Thermo protector (CTCO) mounted on the compressor discharge line to be wired with wires rated 125°C min.
c) Intrinsically safe wiring to be properly separated from non-intrinsically safe wiring.

Grounding:

All metallic non-current-carrying parts are properly bonded and connected to a central ground.

Conduit Entry:

A 3/4 (min). NPT conduit entry is provided for customer wiring.

Arc Producing Devices:

All arc producing devices will be housed inside an explosion proof enclosure.

B) Wall-mount air conditioner Model WCXG Series:

This unit is for hazardous location in the exterior section only. Certification is for Class1, Division 2, Groups B, C, D condenser (outdoor) section, and Non-Hazardous (Ordinary) location evaporator (indoor) section. This unit would be used in a pressurized building.

A UL listed Bard, Sun or equivalent air conditioner is used as the base unit and the controls are replaced and/or rearranged/moved. The air conditioning process was not altered.

Compressors:

a) Be full hermetic type.
b) Be either reciprocating (piston), rotary, or scroll type.
c) Be for R22, R134a, R407C, or similar refrigerant.
d) Show the correct operating voltage, phase, and hertz.
e) Show a locked rotor current.
f) Have terminal protective cover with weatherproofing gasket.

Compressor Overload Protection:

a) Located inside compressor, no modification required.
b) One hermetically sealed thermo protector (CTCO) strapped to the discharge line of the compressor (the potentially hottest spot).

Condenser (Outdoor) Fan Motors:

a) Contain no arcing devices such as centrifugal switches or brushes.
b) Show the correct operating voltage, phase, and hertz,
c) Show the full load amps,
d) Have an internal overload (normally) before our modification (except for TEFC motors that contain no overloads),
e) Show the manufacture's name and model or catalog number, and,
f) TEFC motor cooling fans must be non-sparking metallic and conductive plastic

The existing Condenser Fan Motor internal overload protection is replaced by:

a) A remote overload relay to detect excessive current which is placed inside the non-hazardous evaporator section, and,
b) A hermetically sealed thermo protector (TCO) is secured to the motor winding to detect over temperature (except for TEFC motors).

Wiring:

Certified wires with proper insulation temperature code. Thermo protector (CTCO) mounted on the compressor discharge line to be wired with wires rated 125°C min.

Grounding:

All metallic non-current-carrying parts are properly bonded and connected to a central ground.

Conduit Entry:

A 3/4 (min) NPT conduit entry is provided for customer wiring.

Arc Producing Devices:

All arc producing devices will be housed inside the non-hazardous evaporator section.

C) **Wall-mount air conditioner/pressurizer combination Model WCPX Series**:

This unit is used to heat, cool, and pressurize a building. A UL Bard, Sun or equivalent air conditioner is used as the base unit and the controls are replaced and/or rearranged/moved and some into an explosion proof enclosure or on an intrinsically safe circuit. The air conditioning process is not altered. A pressurization blower and controls are added.

a) Style 1: Certification is for Class 1, Division 2, Groups B, C, D (Pressurization System and Outdoor Section). This unit is for hazardous location for the pressurizing system components and in the exterior (outdoor) section. The indoor heating and cooling components are for Non-Hazardous (Ordinary) locations for use after the building is pressurized.

b) Style 2: Certification is for Class 1, Division 2, Groups C , D (Pressurization System and Outdoor Section).

c) Style 3: Certification is for Class 1, Division 2, Groups C , D. All items are acceptable for use in Division 2 location.

d) Style 4: Certification is for Class 1, Division 2, Groups B, C, and D. All items are acceptable for use in a Division 2 location.

Compressors:

a) Be full hermetic type.
b) Be either reciprocating (piston), rotary, or scroll type.
c) Be for R22, R134a, R407C, or similar refrigerant.
d) Show the correct operating voltage, phase, and hertz.
e) Show a locked rotor current.
f) Have terminal protective cover with weatherproofing gasket.

Compressor Overload Protection:

a) Located inside compressor, no modification required.
b) One hermetically sealed thermo protector (CTCO) strapped to the discharge line of the compressor (the potentially hottest spot).

Fan Motors:

a) Contain no arcing devices such as centrifugal switches or brushes.
b) Show the correct operating voltage, phase, and hertz,
c) Show the full load amps,
d) Have an internal overload (normally) before our modification (except for TEFC motors that contain no overloads),
e) Show the manufacture's name and model or catalog number, and,
f) TEFC motor cooling fans must be non-sparking metallic or conductive plastic.
g) Additional motors for purge and/or pressurizing are:
    1) Explosion proof, Class 1, Division2, Groups C, D,
    2) Certified for Class 1, Division 2, Groups A, B, C, D or,
    3) TEFC for purge only.

The existing Fan Motor internal overload protection is replaced by:

a) A remote overload relay to detect excessive current which is placed inside the explosion proof enclosure, and,
b) A hermetically sealed thermo protector (TCO) is secured to the motor winding to detect over temperature (except for TEFC motors).

Wiring:

a) Certified wires with proper insulation temperature code. Thermo protector (CTCO) mounted on the compressor discharge line to be wired with wires rated 125°C min.
b) Intrinsically safe wiring to be properly separated from non-intrinsically safe wiring.

Grounding:

All metallic non-current-carrying parts are properly bonded and connected to a central ground.

Conduit Entry:

A 3/4 (min) NPT conduit entry is provided for customer wiring.

Fuses:

Fuses are of the "non-indicating, filled, current-limiting" type.

Arc Producing Devices:

All arc producing devices required to be Division 2 will be housed inside an explosion proof enclosure.

The following are the Descriptive documents:

Document	Drawing No.	Rev. No.
Name Plate WCBX Series	0704-WCBXSCT	0
Name Plate WCXG Series	0704-WCXG-T2	0
Name Plate WCPX-HC2	0704-WCPHC2-T	0
WCBX Series - Component List CLASS I, Div 2.	0102-SCMCL-A	1
WCBX Series – Component List CLASS I, Div 2	0102-HCMCL-A	1
Major Component List	0403-OPT-MCL-1	1
WCBX Component Layout	0503-SC-CL	0
WCBX Component Layout	0505-HT-CL	0
Air Flow Switches	0403-AFS-MCL-1	0
Motor List Addendum 2	0403-MOT-MCL2	0
Motor List Addendum 3	0403-MOT-MCL3	0
Motor List Addendum 4	0403-MOT-MCL4	0
Schematic WCBX 215	1198-HWEH-2150 BF	4
Schematic WCBX 235	1198-HWSC-2350-1	0
Schematic WCBX 236	0998-HWEH-2360-1C	0
Electrical Options	0100-OPT-A	1
Electrical Options	0100-OPT-B	0
WCBX Series - Component List CLASS I, Div 2	0403-SCD1D2MCL-A	1
WCBX Series - Component List CLASS I, Div 1	0403-1SCMCL-A	2
WCBX Series - Component List	0102-D2GPMCL-A	2
WCBX Series - Component List	0102-D2GPHCL-A	2
WCBX Series - Component Layout	0503-D2GP-CL	0
WCBX Series - Component Layout	0503-D2GPHT-CC	0
WCBX Series – Schematic	1298BHWEH-2360-5	1
WCPX Series – Component List	0403-WP-MCL-A/B	1
WCPX Series – Component List	0403-WPI-MCL-A/B	1
WCPX Series – Component List	0403-WPHT-MCL-A/B	1
WCPX Series – Component List	0403-WPHI-MCL-A/B	2
WCPX Series – Schematic WCPX215	0303-WPI-2150-1A	0
WCPX Series – Schematic	0303-SPHT-2150-2A	1
WCPX Series – Schematic	0303-WPI-3350-1A	0
WCPX Series – Schematic	0303-SPHT-3350-2A	1
WCPX Component Layout	0503-WP-CL	0
WCPX Component Layout	0503-WPHT-CL	0
WCPX Component Layout	0503-WPI-CL	0
WCPX Component Layout	0503-WPHIT-CL	0
WCBX062-436-12H-AB	Test Report 05.06.03	
WCXG060-436-09G	Test Report 05.06.03	
WCPX060-436-09G	Test Report 05.06.03	

TEST REPORT

Tests have been provided on representative units at manufacture's site the following units have been tested:

WCBX012-216-03H Serial No PWACDB30013614.
WCBX062-436-12H-AB Serial No PWACDB30015803.
WCXG060-436-096 Serial No PWACDB30019235.
WCPX060-436-096 Serial No PWACDB300115812.

The following tests have been provided in each of these units:

1. Rating: CSA Std. C22-2 No 236-95; UL1995 Clause 39
2. Dielectric Strength: CSA Std. C22.2 No 236-95; UL1995 Clause 52
3. Temperature Code: CSA Std. C22.2 No 213-M1987 Cl 6.2; UL 1604 Sec 9.

A set of Test reports are included in the Engineering File.