



# APPLICATION FOR PREAPPROVAL SPECIAL SEISMIC CERTIFICATION OF EQUIPMENT AND COMPONENTS

For Office Use Only

**APPLICATION NO.**  
**OSP-0221-10**

Check whether application is: NEW  RENEWAL

**1.0** Praxair, Incorporated  
*Manufacturer*  
39 Old Ridgebury Road

Greg Gorton, General Superintendent  
*Manufacturer's Technical Representative*  
Danbury, CT 06810

*Mailing Address*

(909) 349-4053

*Telephone*

Greg\_gorton@praxair.com

*E-mail Address*

**2.0** Medical Oxygen Supply  
*Product Name*

Oxygen Supply Regulator Module  
*Product Type*

CPE-X-2635-EQ

*Product model No (List all unique product identification numbers and/or serial numbers)*

*General Description: The approval is limited to rigid floor mounted units identical to tested unit only. The medical oxygen supply regulating module contains various filter assemblies, pressure gages, pressure switches, pressure regulators, and valves.*

**3.0** DYNAMIC CERTIFICATION LABORATORIES, LLC  
*Applicant Company Name*  
1315 GREG STREET, SUITE 109

JOSEPH LA BRIE, S.E.  
*Contact Person*  
SPARKS, NV 89431

*Mailing Address*

(775) 358-5085

*Telephone*

LaBrie@makeitright.net

*E-mail Address*

I hereby agree to reimburse the Office of Statewide Health Planning and Development for the actual costs incurred by the department for review.

*Signature of applicant*

October 18, 2011

*Date*

Managing Partner

*Title*

Dynamic Certification Laboratories, LLC

*Company Name*



**Registered Design Professional Preparing the Report**

4.0 DYNAMIC CERTIFICATION LABORATORIES, LLC  
*Company Name*

JOSEPH LA BRIE, S.E. SE-3566  
*Contact Name* *California License Number*

1315 GREG STREET, SUITE 109, SPARKS, NV 89431  
*Mailing Address*

(626) 445-0366 LaBrie@MakeItRight.net  
*Telephone* *E-mail Address*

**California Licensed Structural Engineer Review and Acceptance of the Report**

5.0 DYNAMIC CERTIFICATION LABORATORIES, LLC  
*Company Name*

DR. AHMAD ITANI, SE SE-5220  
*Contact Name* *California License Number*

1315 GREG STREET, SUITE 109, SPARKS, NV 89431  
*Mailing Address*

(775) 358-5085 Itani@shaketest.com  
*Telephone* *E-mail Address*

**Anchorage Pre-Approval**

6.0  Anchorage is pre-approved under OPA-  
 (Separate application for anchorage pre-approval is required)

Anchorage is not Pre-approved

**Certification Method**

7.0  Testing in accordance with:  ICC-ES AC-156  Other (Please Specify):

Analysis

Experience data

Combination of Testing, Analysis, and/or Experience Data (Please Specify): Testing

**Testing Laboratory (if applicable)**

8.0 DYNAMIC CERTIFICATION LABORATORIES, LLC KELLY LAPLACE, PROJECT ENGINEER  
*Company Name* *Contact Name*

1315 GREG STREET, STE 109 SPARKS, NV 89431  
*Mailing Address*

(775) 358-5085 Kelly@shaketest.com  
*Telephone* *E-mail:*





**Approval Parameters**

9.0

Design in accordance with ASCE 7-05 Chapter 13:  Yes  No

Design Basis of Equipment or Components ( $F_p/W_p$ ) = 1.0

$S_{DS}$  (Spectral response acceleration at short period) = 2.50g

$a_p$  (In-structure equipment or component amplification factor) = 1.0

$R_p$  (Equipment or component response modification factor) = 1.5

$I_p$  (Importance factor) = 1.5

$z/h$  (Height factor ratio) = 0.0

Equipment or Component fundamental period(s) = SEE ATTACHMENT

Building period limits (if any) = NONE

Overall dimensions and weight (or range thereof) = SEE ATTACHMENT

Equipment or Components @ grade designed in accordance with ASCE 7-05 Chapter 15:  Yes  No

Design Basis of Equipment or Components ( $V/W$ ) =

$S_{DS}$  (Spectral response acceleration at short period) =

$S_1$  (Spectral response acceleration at 1 second period) =

$R$  (Response modification coefficient) = 1.0

$\Omega_0$  (System overstrength factor) = 1.0

$C_d$  (Deflection amplification factor) = 1.0

$I_p$  (Importance factor) = 1.5

Height to Center of Gravity above base =

Equipment or Component fundamental period(s) = Sec


Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2007:  Yes  No

**List of attachments supporting the special seismic certification of equipment or components:**

- Test Report  Drawings  Manufacturer's Catalog  
 Calculations  Others (Please Specify):

**11.0 OSHPD Approval (For Office Use Only)**

  
 Signature & Date

**M. R. Karim, SHFR**

Name & Title

10/19/2011

December 31, 2016

Approval Expiration Date

$S_{DS}$  (g) = 2.50  $z/h$  = 0.0

Special Seismic Certification Valid Up to

Condition of Approval (if any):

**Table 1**

**Special Seismic Certification  
Approved Units**



**Manufacturer:** Praxair

**Product Line:** Medical Oxygen Supply

**Certified Product Construction:**

12 gage stainless steel panel enclosure (not NEMA rated).

**Certified Options:**

The approved unit contains various filter assemblies, pressure gages, pressure switches, pressure regulators and valves to make up a complete medical oxygen supply regulating system.

**Certified Mounting Description:**

All equipment is to be rigid-mounted

Model	Dimensions (inches)			Resonance Frequency (Hz)			Operating Weight* (lb)	Mounting	Sds Level Approved (g)
	Length	Width	Height	Front-Back	Side-Side	Vertical			
CPE-X-2635-EQ	10.3	37	49	13.5	18	>33	450	Rigid	2.5

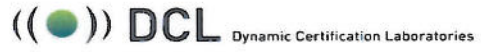
\*Note: operating weight includes manufacturer-provided mounting frame.

The Unit Under Test (UUT) listed in the above table was subjected to AC156 level Sds 2.5 g tests. Pre- and post-shake functionality requirements were performed on the UUT by DCL staff. It was verified that the UUT satisfied the post-shake functional requirements with equivalent results to those of the pre-test functional compliance testing. It was determined that the UUT was operational.

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**Table 3**

**Special Seismic Certification  
Approved Components**

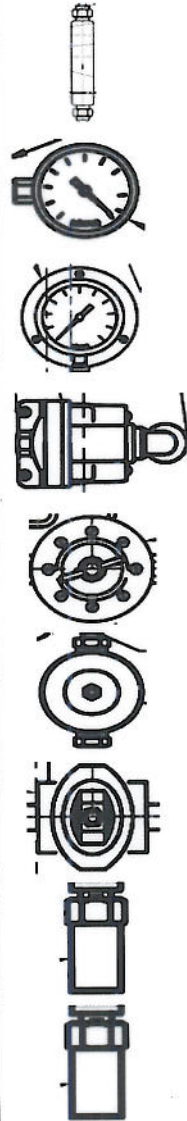


**Manufacturer:** Praxair

**Product Line:** Medical Oxygen Supply

**Model Number:** CPE-X-2635-EQ

Component Description	Manufacturer	Part Number
Filter Assembly	AMKO	BAG-96-1615
Pressure Gauge	Ashcroft	63-1008A-02B-XLJ-X6B-400#
Pressure Gauge	Ashcroft	35W2001SH 02L XLJ6BZQ FW 100 psi
Pressure Switch	Barksdale	D1H-A150SS
Pressure Regulator	Generant	2GDR 750B V B
Back Pressure Regulator	CASH Valve	10673
Valve Ball	Watts	1" B-6801-VT-OC-VB-OVS-BB
Valve Safety	Generant	B-9426N 75
Valve Safety	Generant	CRV-250B-K-400



## Table 2

### UUT1 Unit Under Test Summary Sheet

**Manufacturer:** Praxair

**Product Line:** Medical Oxygen Supply

**Model Number:** CPE-X-2635-EQ

**Product Construction Summary:**

12 gage stainless steel panel enclosure (not NEMA rated).

**Options / Component Summary:**

The unit contained various filter assemblies, pressure gages, pressure switches, pressure regulators and valves to make up a complete medical oxygen supply regulating system.

**UUT Properties**

Operating Weight* (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
450	10.3	37	49	13.5	17.8	>33

**Seismic Test Parameters**

Building Code	Test Criteria	Sds	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2010	2010 ICC-ES AC156	2.5	0.0	1.5	2.5	1	1.67	0.67

\*Note: Operating weight includes the weight of the manufacturer-provided mounting frame.

**Unit Mounting Description:**



UUT1 was attached to its manufacturer-provided mounting frame using 3/8-inch Grade 8 bolts, 8 total (4 per side). The frame was attached to the DCL shake table interface plate using 1/2-inch Grade 5 bolts, 8 total (4 per side).