



# APPLICATION FOR PREAPPROVAL SPECIAL SEISMIC CERTIFICATION OF EQUIPMENT AND COMPONENTS

For Office Use Only

APPLICATION NO.

OSP – 0227-10

Check whether application is: NEW  RENEWAL

1.0 Xpediair Corp Mr. Richard Stillinger  
*Manufacturer* *Manufacturer's Technical Representative*  
P.O. Box 2598, Oklahoma City, OK 73101  
*Mailing Address*  
405-605-5091 stillinger@iecokc.com  
*Telephone* *E-mail Address*

2.0 Xpediair Fan Coils Hydronic Fan Coils  
*Product Name* *Product Type*  
Horizontal Series 200-1200 CFM, Hi-Performance Series 600-2000 CFM, Belt Drive Series 600-4000 CFM  
*Product model No (List all unique product identification numbers and/or serial numbers)*

*General Description: These are hydronic fan coil air handling units. Pre-approved installations are: Horizontal Series, Hi-Performance Series \*HB, and Belt Drive Series H\*C: Suspended with external isolation and seismic cable kits; Hi-Performance VDC and Belt Drive CVA: floor mounted with rigid mount or external isolation with steel base. Approval is limited to configurations tested and shall include modifications to the units required to address the anomalies observed during the shake table tests and other changes incorporated into the units in preparation for the tests.*

3.0 The VMC Group John P. Giuliano, PE  
*Applicant Company Name* *Contact Person*  
113 Main St, Bloomingdale NJ, 07403  
*Mailing Address*  
973-838-1780 john.giuliano@thevmcgroup.com  
*Telephone* *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

10/28/11

Date

President

Title

The VMC Group

Company Name

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Registered Design Professional Preparing the Report

4.0 The VMC Group  
*Company Name*

Mr. Ken Tarlow SE2851  
*Contact Name* *California License Number*

113 Main St, Bloomingdale, NJ 07403  
*Mailing Address*

973-838-1780 ken.tarlow@thevmcgroup.com  
*Telephone* *E-mail Address*

California Licensed Structural Engineer Review and Acceptance of the Report

5.0 The VMC Group  
*Company Name*

Mr. Ken Tarlow SE2851  
*Contact Name* *California License Number*

113 Main St, Bloomingdale, NJ 07403  
*Mailing Address*

973-838-1780 ken.tarlow@thevmcgroup.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 Laboratory (if applicable)

8.0 Clark Testing Laboratory JR Antenucci  
*Company Name* *Contact Name*

1801 Route 51, Jefferson Hills, PA 15025  
*Mailing Address*

412-382-7173 jantenucci@clarkdynamics.com  
*Telephone* *E-mail:*



**Testing Laboratory (Continued)**

8.0

Environ Laboratories

Bradley Czech

*Company Name*

*Contact Name*

9725 Girard ave South, Minneapolis, MN 55431

*Mailing Address*

952-888-7795

[BCC@environlab.com](mailto:BCC@environlab.com)

*Telephone*

*E-mail:*

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**Approval Parameters**

9.0

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

Design Basis of Equipment or Components ( $F_p/W_p$ ) = 4.34

- $S_{DS}$  (Spectral response acceleration at short period) = 1.93 g
- $a_p$  (In-structure equipment or component amplification factor) = 2.5
- $R_p$  (Equipment or component response modification factor) = 2.0
- $I_p$  (Importance factor) = 1.5
- $z/h$  (Height factor ratio) = 1.0
- Equipment or Component fundamental period(s) = See attachment
- Building period limits (if any) = N/A
- 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

**10.0 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 <b>M. R. Karim, SHFR</b> Name & Title	11/1/11	December 31, 2016 Approval Expiration Date
Condition of Approval (if any):	$S_{DS}$ (g) = <b>1.93</b> $z/h$ = <b>1.0</b> Special Seismic Certification Valid Up to	

**XPEDIAIR CORPORATION**  
**Certified Product Matrix**

FAN COIL PRODUCT FAMILY NAME	MODEL (XPEDIAIR)	MAX HEIGHT (in)	MAX WIDTH (in)	MAX DEPTH (in)	MAX WEIGHT (lbs)	UNIT MATERIAL	COIL CONFIGURATIONS		ELECTRIC HEAT	MOTOR CONFIGURATIONS		BLOWER HOUSINGS CONFIGURATIONS		BLOWER WHEELS CONFIGURATIONS		FILTER CONFIGURATIONS			DAMPER CONFIGURATIONS		Mounting Method	
							Mfr	Size		Material	Mfr	Material	Mfr	Material	Mfr	Material	Mfr	Material	Mfr	Material		Mfr
HORIZONTAL SERIES	XHB	02-12	82	23.5	245	Galvanized Carbon Steel	Thermaclime Technologies	Fin 10/Pi 2.4 Pipe	Nova	Eastwest & GE	115, 208, 230, 277 V Single Phase, 60 Hz	IEC	Galvanized Carbon Steel	Beckett	Galvanized Carbon Steel	Filtertech OKC	1" Flat	Non woven synthetic	IEC	Motorized Automatic	Galvanized Carbon Steel	Suspended-Isolated w/cable Restraints
	THB	02-12	77	34	243	Galvanized Carbon Steel	Thermaclime Technologies	1.2, 3.4 Rows 0.5 OD Tube	Nova	Eastwest & GE	115, 208, 230, 277 V Single Phase, 60 Hz	IEC	Galvanized Carbon Steel	Beckett	Galvanized Carbon Steel	Filtertech OKC	1" Pleated 1" MERV	Non woven synthetic	IEC	Motorized Automatic	Galvanized Carbon Steel	Suspended-Isolated w/cable Restraints
	HGC	06-20	64	32	235	Galvanized Carbon Steel	Thermaclime Technologies	Aluminum/Copper Fin Copper Tube	Nova	Eastwest & GE	115, 208, 230, 277 V Single Phase, 60 Hz	IEC	Galvanized Carbon Steel	Morrison	Galvanized Carbon Steel	Filtertech OKC	1" Flat 2" Pleated + 2" MERV	Non woven synthetic	NA	NA	NA	Suspended-Isolated w/cable Restraints
HI-PERFORMANCE SERIES	HLC	06-20	64	32	255	Galvanized Carbon Steel	Thermaclime Technologies	Aluminum/Copper Fin Copper Tube	Nova	Eastwest & GE	115, 208, 230, 277 V Single Phase, 60 Hz	IEC	Galvanized Carbon Steel	Morrison	Galvanized Carbon Steel	Filtertech OKC	1" Flat 2" Pleated + 2" MERV	Non woven synthetic	NA	NA	NA	Suspended-Isolated w/cable Restraints
	VDC	06-20	56	18	230	Galvanized Carbon Steel	Thermaclime Technologies	Aluminum/Copper Fin Copper Tube	Nova	Eastwest & GE	0.1 - 0.25 HP	IEC	Galvanized Carbon Steel	Morrison	Galvanized Carbon Steel	Filtertech OKC	1" Flat 2" Pleated + 2" MERV	Non woven synthetic	NA	NA	NA	Base Mounted-Rigid
	VDC	06-20	56	18	230	Galvanized Carbon Steel	Thermaclime Technologies	Aluminum/Copper Fin Copper Tube	Nova	Eastwest & GE	0.1 - 0.25 HP	IEC	Galvanized Carbon Steel	Morrison	Galvanized Carbon Steel	Filtertech OKC	1" Flat 2" Pleated + 2" MERV	Non woven synthetic	NA	NA	NA	Base Mounted-Rigid
BELT-DRIVE SERIES	CHW	06-40	31	62	590	Galvanized Carbon Steel	Thermaclime Technologies	Aluminum/Copper Fin Copper Tube	Warren	Baldor & Marathon	115, 208, 230, 277 V Single Phase, 60 Hz	Morrison	Galvanized Carbon Steel	Morrison	Galvanized Carbon Steel	Filtertech OKC	1" Flat 2" Pleated + 2" MERV	Non woven synthetic	NA	NA	NA	Suspended-Isolated w/cable Restraints
	CHA	06-40	32.25	62	595	Galvanized Carbon Steel	Thermaclime Technologies	Aluminum/Copper Fin Copper Tube	Warren	Baldor & Marathon	115, 208, 230, 277 V Single Phase, 60 Hz	Morrison	Galvanized Carbon Steel	Morrison	Galvanized Carbon Steel	Filtertech OKC	1" Flat 2" Pleated + 2" MERV	Non woven synthetic	NA	NA	NA	Suspended-Isolated w/cable Restraints
	CVA	06-40	57.62	62	559	Galvanized Carbon Steel	Thermaclime Technologies	Aluminum/Copper Fin Copper Tube	Warren	Baldor & Marathon	208, 230, 460 V 3 Phase, 60 Hz	Morrison	Galvanized Carbon Steel	Morrison	Galvanized Carbon Steel	Filtertech OKC	1" Flat 2" Pleated + 2" MERV	Non woven synthetic	NA	NA	NA	Base Mounted-Rigid
	CVA	06-40	57.62	62	559	Galvanized Carbon Steel	Thermaclime Technologies	Aluminum/Copper Fin Copper Tube	Warren	Baldor & Marathon	0.25 - 5.0 HP	Morrison	Galvanized Carbon Steel	Morrison	Galvanized Carbon Steel	Filtertech OKC	1" Flat 2" Pleated + 2" MERV	Non woven synthetic	NA	NA	NA	Base Mounted-Rigid
	CVW	06-40	57.62	62	559	Galvanized Carbon Steel	Thermaclime Technologies	Aluminum/Copper Fin Copper Tube	Warren	Baldor & Marathon	0.25 - 5.0 HP	Morrison	Galvanized Carbon Steel	Morrison	Galvanized Carbon Steel	Filtertech OKC	1" Flat 2" Pleated + 2" MERV	Non woven synthetic	NA	NA	NA	Base Mounted-Rigid
	CVW	06-40	57.62	62	559	Galvanized Carbon Steel	Thermaclime Technologies	Aluminum/Copper Fin Copper Tube	Warren	Baldor & Marathon	0.25 - 5.0 HP	Morrison	Galvanized Carbon Steel	Morrison	Galvanized Carbon Steel	Filtertech OKC	1" Flat 2" Pleated + 2" MERV	Non woven synthetic	NA	NA	NA	Base Mounted-Rigid

CVA unit is the same as the CVW unit. Only difference is the model number.

CHA unit is the same as the CHW unit. Only difference is the model number and CHA cabinet is 1.25" taller than CHW.

All units are single wall units except CHA, which is available as a single OR double wall unit.



**THE VMC GROUP**  
 The Power of Together™

SHAKE TEST MATRIX  
SUSPENDED UNITS UNDER TEST (HRS HANGER)

UNIT MODEL	UNIT WEIGHT MEASURED(LBS)	UNIT SIZE (IN)			COIL	Component Manufacturers				UUT		
		L	W	H		Motor (s)	Blower Hsg	Blower Whl	Elec Heat		Filter	Damper
THB02	134	37	26	14	Copper Fin 2 Pipe, 4 Rows	Eastwest (208-1-60, 0.03HP)	IEC	Beckett	Nova	Filtertech OCK, 1" Flat	IEC Motorized	Env-UUT #1
THB12	296	77	26	14	Aluminum Fin 2 Pipe, 4 Rows	Eastwest (277-1-60, 0.17HP) & GE (0.17HP)	IEC	Beckett	Nova	Filtertech OCK, 1" MERV	IEC Automatic	Clk-UUT #1
HLC06	217	31	32	18	Copper Fin 2 Pipe, 6 Rows	GE (208-1-60, 0.1HP)	IEC	Morrison	Nova	Filtertech OCK, 1" Flat	NA	Env-UUT #3
HLC20	375	64	32	18	Copper Fin 2 Pipe, 6 Rows	Eastwest (208-1-60, 0.25HP)	IEC	Morrison	Nova	Filtertech OCK, 1" Flat	NA	Env-UUT #4
CHW06 + Mixing Box	345	28	36-1/8	18-1/2	Copper Fin 2 Pipe, 8 Rows	Marathon (208-3-60, 1HP)	Morrison	Morrison	Warren	Filtertech OCK, 1" Flat	NA	Env-UUT #7
CHA40 (Double Wall)	690	62	43-1/2	31	Aluminum Fin 2 Pipe, 6 Rows	Baldor (460-3-60, 1 & 5HP)	Morrison	Morrison	Warren	Filtertech OCK, 2" Pleated+2" MERV	NA	Clk-UUT #2

FLOOR MOUNTED UNITS UNDER TEST (ISOLATED & NON-ISOLATED)

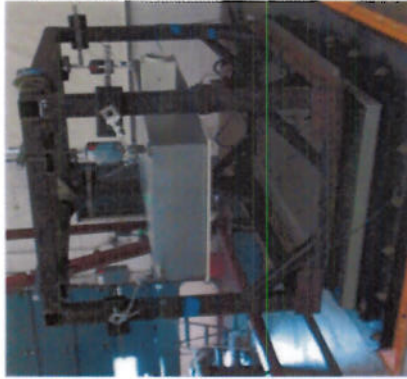
UNIT MODEL	UNIT WEIGHT MEASURED(LBS)	UNIT SIZE (IN)			COIL	Component Manufacturers				UUT	LOWEST NATURAL FREQUENCIES					
		L	W	H		Motor (s)	Blower Hsg	Blower Whl	Elec Heat		Filter	Damper	Isolated	X	Y	Z
VDC06 Isolated	195	23	18	34	Copper Fin 2 Pipe, 6 Rows	GE (208-1-60, 0.1HP)	IEC	Morrison	Nova	Filtertech OCK, 1" Flat	NA	Env-UUT #5	Yes	2.1	5.1	6.6
VDC06 Non-Isolated	195	23	18	34	Copper Fin 2 Pipe, 6 Rows	GE (208-1-60, 0.1HP)	IEC	Morrison	Nova	Filtertech OCK, 1" Flat	NA	Env-UUT #5	No	26.9	24.5	2.3
VDC20 Isolated	342	56	18	34	Copper Fin 2 Pipe, 6 Rows	Eastwest (208-1-60, 0.25HP)	IEC	Morrison	Nova	Filtertech OCK, 1" Flat	NA	Env-UUT #6	Yes	4.2	2.7	15.4
VDC20 Non-Isolated	342	56	18	34	Copper Fin 2 Pipe, 6 Rows	Eastwest (208-1-60, 0.25HP)	IEC	Morrison	Nova	Filtertech OCK, 1" Flat	NA	Env-UUT #6	No	8.2	2.7	13.5
CVW06 Isolated	291	28	20	36-1/2	Copper Fin 2 Pipe, 8 Rows	Marathon (208-3-60, 1HP)	Morrison	Morrison	Warren	Filtertech OCK, 1" Flat	NA	Env-UUT #9	Yes	6.0	1.9	10.3
CVW06 Non-Isolated	291	28	20	36-1/2	Copper Fin 2 Pipe, 8 Rows	Marathon (208-3-60, 1HP)	Morrison	Morrison	Warren	Filtertech OCK, 1" Flat	NA	Env-UUT #9	No	10.4	10.5	19.9
CVW40 Isolated	790	62	28	57-5/8	Aluminum Fin 2 Pipe, 6 Rows	Baldor (460-3-60, 1HP) & Marathon (460-3-60, 3HP)	Morrison	Morrison	Warren	Filtertech OCK, 2" Pleated+2" MERV	NA	Clk-UUT #3	Yes	2.0	4.3	7.2
CVW40 Non-Isolated	790	62	28	57-5/8	Copper Fin 2 Pipe, 8 Rows	Baldor (208-1-60, 5HP)	Morrison	Morrison	Warren	Filtertech OCK, 1" Flat	NA	Env-UUT #10	No	8.4	5.6	13.6

All coils are Thermoclime  
All UUT Construction, Blower Housing, Blower wheel, Damper are galvanized carbon Steel

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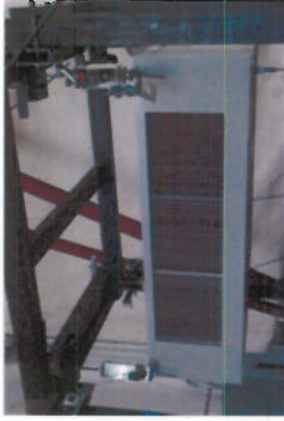
THB02, suspended with HRS-1C hanger boxes



THB12, suspended with HRS-1C hanger boxes



HLC06, suspended with HRS-1C hanger boxes



HLC20, suspended with HRS-1C hanger boxes



CHW06, suspended with HRS-1C hanger boxes



CHA40, suspended with HRS-1C hanger boxes



VDC06, Base Mounted on AMSR-1C isolators



VDC06, Rigid Mounted to table



VDC20, Base Mounted on AMSR-1C Isolators



VDC20, Rigid Mounted to table



CW06, Base Mounted on AMSR-1C Isolators



CW06, Rigid Mounted to table



CW40, Base Mounted on AMSR-1C Isolators



CW40, Rigid Mounted to table