

APPLICATION FOR OSHPD SPECIAL SEISMIC	OFFIC	E USE ONLY
CERTIFICATION PREAPPROVAL (OSP)	APPLICATION #:	OSP – 0581
OSHPD Special Seismic Certification Preapproval (OSP)		
Type: New Renewal		
Manufacturer Information		
Manufacturer: Trane		
Manufacturer's Technical Representative: <u>Ryan Doud</u>		
Mailing Address: <u>3600 Pammel Creek Road, La Crosse, WI 54601</u>		
Telephone: (608) 787-4200	@trane.com	
Product Information	Mp,	
Product Name: Trane Agility	TT.	
Product Type: Water Cooled Centrifugal Liquid Chiller P-0581	CT.	
Product Model Number: HDWA 200 – HDWA 400 (List all unique product identification numbers and/or part numbers) OTA J Pila	nd	
General Description: Catalogued Shell and Tube Water Cooled Chillers	with 2-Stage Compressor	r
DATE: 09/23/2020		
Mounting Description:		
	2	
Applicant Information	ODE	
Applicant Information Applicant Company Name: The VMC Group		
Contact Person: John P. Giuliano, PE		
Mailing Address: 113 Main Street, Bloomingdale, NJ 07403		
Telephone: (973) 838-1780 Email: john.gi	uliano@thevmcgroup.c	<u>com</u>
I hereby agree to reimburse the Office of Statewide Health F accordance with the California Administrative Code, 2016.	Planning and Devel	opment review fees in
Signature of Applicant:	Dat	e: <u>9/21/2020</u>
Title: President Company Name: The VM	//C Group	
	1	
"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"	AL AMAM	USHIPD
STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY OSH-FD-759 (REV 12/16/15)	. A wall to the Add Add and a state of the Add Add Add Add Add Add Add Add Add Ad	Page 1 of 4



California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)
Company Name: The VMC Group
Name: Mr. Ken Tarlow California License Number: SE2851
Mailing Address:113 Main Street, Bloomingdale, NJ 07403
Telephone: (973) 838-1780 Email: <u>ken.tarlow@thevmcgroup.com</u>
Supports and Attachments Preapproval
Supports and attachments are preapproved under OPM- (Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
Supports and attachments are not preapproved
Certification Method
Image: Specify Image
BY:Timothy J Piland
Testing Laboratory DATE: 09/23/2020
Company Name: Construction Engineering Research Laboratory
Contact Name: James Wilcoski
Mailing Address: 2902 Newmark Drive, Champaign, IL 61822
Telephone: (217) 352-6511 Email: james.wilcoski@usace.army.mil

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"

OSHPD

OSP-0581

OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: ∑ Yes ☐ No 1.44; (Rigid, Zh = 1); 3:60 (Neoprene Pad Isolated, zh = 0) Sos (Design spectral response acceleration at short period, g) = 2.00 (zh = 1); 2:27 (zh = 0) a ₀ (In-structure equipment or component amplification factor) = <u>1.0 Rigid; 2:5 Neoprene Pad Isolated</u> R ₆ (Equipment or component response modification factor) = <u>1.0 Rigid; 2:5 Neoprene Pad Isolated</u> R ₆ (Equipment or component response modification factor) = <u>2.5 Rigid; 2:5 Neoprene Pad Isolated</u> R ₆ (Equipment or component Natural Frequencies (Hz) = <u>See Attachments</u> Overall dimensions and weight (or range thereof) = <u>0</u> See Attachments Overall dimensions and weight (or range thereof) = <u>0</u> See Attachments Corponents @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ⊠ No Design Basis of Equipment or Components (WW) = Sos (Design spectral response acceleration at 1 second period, g) = So ₁ (Design spectral response acceleration at 1 second period, g) = R (Response modification coefficient) = C ₄ (Deflection amplification factor) = <u>1.5</u> Height to Center of Gravity above base = Equipment or Component Natural Frequencies (Hz) = Overall dimensions and weight (or range thereof) = Tate 0/22/2020 I ₆ ((Importance factor) = 1.5 Height to Center of Gravity above base = Equipment or Component Natural Frequencies (Hz) = Overall dimensions and weight (or range thereof) = Tate 0/22/2020 I ₆ ((Importance factor) = 1.5 Height to Center of Gravity above base = Equipment or Component Natural Frequencies (Hz) = Overall dimensions and weight (or range thereof) = Tate (S) designed in accordance with ASME BPVC; 2015! ☐ Yes ⊠ No List of Attachments Supporting Special Seismic Certification ⊠ Test Report(s) ⊠ Drawings ☐ Calculations ☐ Manufacturer's Catalog ② Other(s) (Please Specify): <u>Product Reports</u> OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2020 Pint Name: <u>Throthy J. Piland</u> Title: <u>SSE</u> Special Seismic Certification Valid Up to	
Design Basis of Equipment or Components (F ₀ /W ₀) = <u>1.02</u> ; (Rigid, z/h = 1); <u>1.36</u> (Neoprene Pad Isolated, z/h = 0) So ₂ (Design spectral response acceleration at short period, g) = <u>2.00</u> (z/h = 1); <u>2.27</u> (z/h = 0) a ₀ (In-structure equipment or component amplification factor) = <u>1.0 Rigid; 2.5 Neoprene Pad Isolated</u> R ₅ (Equipment or component response modification factor) = <u>2.5 Rigid; 2.5 Neoprene Pad Isolated</u> Ω ₀ (System overstrength factor) = <u>2</u> I _p (Importance factor) = <u>1.5</u> z/h (Height factor ratio) = <u>1 and 0</u> Equipment or Component Natural Frequencies (Hz) = <u>See Attachments</u> Overall dimensions and weight (or range thereof) = <u>0</u> <u>See Attachments</u> Equipment or Components (Win) = <u>0</u> <u>See Attachments</u> So ₂₀ (Design spectral response acceleration at short period, g) = <u>See Attachments</u> So ₂₀ (Design spectral response acceleration at 1 second period, g) = <u>See Attachments</u> C ₃ (Deflection amplification factor) = <u>1.5</u> Height to Center of Gravity above base = <u>Equipment or Component Natural Frequencies (Hz) = <u>0</u> <u>Overal Attachments Supporting Special Seismic Certification</u> So Test Report(s) <u>Drawings</u> <u>Calculations</u> <u>Manufacturer's Catalog</u> Other(s) (Please Specify): <u>Product Reports</u> OstHED Approval (For Office Use Only) – Approval Expires on December 31, 2025 Signature: <u>Manufacture Certification Valid Up to</u>: So₃₀ (g) <u>See Above</u> <u>Z^h = <u>See Above</u> Condition of Approval (if applicable): <u>Calculations Above</u> <u>Z^h = <u>See Above</u> Condition of Approval (If applicable): <u>Calculations Above</u> <u>See Above</u> <u>Condition of Approval (If A</u></u></u></u>	Design in accordance with ASCE 7-10 Chapter 13: 🖾 Yes 📋 No
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Overall dimensions and weight (or range thereof) = See Attachments Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ⊠ No Design Basis of Equipment or Components (V/W) = Sos (Design spectral response acceleration at short period, g) = Son (Design spectral response acceleration at short period, g) = Son (Design spectral response acceleration at 1 second period, g) = R (Response modification coefficient) = Qo (System overstrength factor) = C4 (Deflection amplification factor) = Importance factor) = 1.5 Height to Center of Gravity above base = Equipment or Component Natural Frequencies (Hz) = Overall dimensions and weight (or range thereof) = Tank(s) designed in accordance with ASME BPVC, 2015! ☐ Ves ⊠ No List of Attachments Supporting Special Seismic Certification ⊠ Other(s) (Please Specify) Product Reports OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2025 Signature: June Mark: Timothy J. Plland Title: SSE Special Seismic Certification Valid Up to: Sos (g) = Sos (g) = See Above Condition of Approval (if applicable):	z/h (Height factor ratio) = <u>1 and 0</u>
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C _d (Deflection amplification factor) =	R (Response modification coefficient) =
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List of Attachments Supporting Special Seismic Certification	Overall dimensions and weight (or range thereof) =
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Other(s) (Please Specify): Product Reports OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2025 Signature:	List of Attachments Supporting Special Seismic Certification
Signature:	
Print Name:Timothy J. Piland Title:SSE Special Seismic Certification Valid Up to: SDS (g) =See Above z/h =See Above Condition of Approval (if applicable):	OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2025
Print Name:Timothy J. Piland Title:SSE Special Seismic Certification Valid Up to: SDS (g) =See Above z/h =See Above Condition of Approval (if applicable):	Signatura: All All Data: Sontamber 22, 2020
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Condition of Approval (if applicable): "Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs" STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY	
"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"	
STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY	Condition of Approval (if applicable):
STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY	
	"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"

Model	Rating		Shells	Max Dimensions [in]			Max Weight	S _{DS} @	S _{DS} @	Installation	UUT
Widder	[Tons]	Size	Configuration	Length	Width	Height	[lbs]	z/h=0	z/h=1.0	Method ^{1,2}	001
HDWA	200	020/020	Transformer option, Marine Water Box Option, Analog Output Sine Filter	129.9	67.4	72.2	10,900	2.27	2.00	Rigid /Pad	UUT-1
HDWA	300	020/020	Transformer option, Marine Water Box Option, Analog Output Sine Filter	P129.9	67.40	72.2	15,032	2.27	2.00	Rigid/Pad	Interpolated
HDWA	300	040/040	Transformer option, Marine Water Box Option, Analog Output Sine Filter	129.9	P70.7	78	16,775	2.27	2.00	Rigid/Pad	Interpolated
HDWA	400	040/040	Transformer option, Marine Water Box Option, Analog Output Sine Filter	DSP-0 129.9	581 70.7 I Pilor	78	19,100	2.27	2.00	Rigid/ Pad	UUT-2

Table 1 - Certified Chiller Matrix

1) Pads Used for Leveling Purposes Only

2) Bolded Text Indicates Tested Configuration



Table 2 - Certified Shells

Shell		Evaporator ⁽¹⁾			Condenser	Construction	UUT	
Size	OD [in]	L [in]	Max Weight [lbs]	OD [in]	L [in]	Max Weight [lbs]	Construction	001
				· · ·				
020/020	21	113.4	1960	21	129.9	2235	Carbon Steel	001-1
040/040	27.9	113.4	2917	26.2	129.9	3582	Carbon Steel	UUT-2

1) Standard tube material is Carbon Steel

Table 3 - Certified Variable Speed Drives and Control Panels

Model Number	Input Voltage / Output Current	Weight [lbs]	Manufacturer	UUT
TR200 AFDT	208 to 600V / 243A	<u>C 3352</u>	Trane	UUT-1
TR200 AFDT	208 to 600V / 362A	3352	Trane	Interpolated
TR200 AFDT	208 to 600V / 440A	3355	Trane	Interpolated
TR200 AFDT	208 to 600V / 533A	3355	Trane	Interpolated
TR200 AFDT	208 to 600V / 676A	3861	Trane	UUT-2

Table 4 - Certified Compressors

Model Number	Type / Configuration O	th <mark>Size</mark> Pi [Tons]	Weight [lbs]	Manufacturer	UUT
200T	Centrifugal / 2-Stage	200T	2353	Trane	UUT-1
300T	Centrifugal / 2-Stage	/2 <u>300</u> 702	2741	Trane	Interpolated
400T	Centrifugal / 2-Stage	400T	2741	Trane	UUT-2

Table 5 - Certified Options & Accessories

Description	Type / Configuration	Weight	Manufacturer	UUT
Transformer	Voltage Transformer	1847	Basler Electric	UUT-1, UUT-2
Harmonic Filter	Analog Harmonic Filter	1247	CTM MAGNETICS	UUT-1, UUT-2
Output Filter	Analog Output Sine Filter	340	CTM MAGNETICS	UUT-1, UUT-2
Marine Water Boxes	Marine Water Boxes	990	Trane	UUT-1, UUT-2

ALTER AND DB VMC GROUP		IIT UNI Sum	DER TE mary S	-	UT)		UUT-01		
							30899-1901		
Model Line		М	lodel Numb	er		Manufacturer			
Agility			HDWA 200				Trane		
	I	Product C	onstruction	Summary					
Carbon Steel Shell & Tu		options / Su	lbcompone	nt Summar	W				
Shells: Trane, Variable S Magnetics, Outlet Filter:		e Water Boxe	es: Trane	COMP			c, Harmonic		
Weight		Dimensi	and the second second second		12	Lowest Nat. Freq. [Hz]			
[lbs]	Length		dthP-058	31 He	ight	F-B	S-S	V	
10,900	13 <mark>0</mark>	6	7		72	14.0	10	23	
	UUT	Highest Pas	sed Seismic	Run Infor	mation				
Building Code	Test Criteria	S _{DS} (g)	z/h	IIP	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)	
CBC 2016	ICC-ES AC156	2.00	$9/2^{1.0}/20$	$20^{1.5}$	3.20	2.40	-	-	
CBC 2016	ICC-ES AC156	2.27	0.0	1.5		-	1.51	0.61	
Chiller is rigidly based m	nounted to table interface		Mounting D g (8) 7/8" dia		de 8 bolts.				

All units were filled with contents and maintained structural integrity and functionality after AC156 test.

ATHIED ANTIED DEL VMC GROUP		NIT UNI Sum	DER TE mary S	-	UT)		UUT-02	
							30899-1901	
Model Line		Μ	lodel Numbe	er		Manufacturer		
Agility		HDWA 400 Trane						
	•	Product C	Construction	Summary				
Carbon Steel Shell & Tu	ube Water Cooled Chille		ubaamnanaa	at Cummor				
Shells: Trane, Variable :	Chand Drive & Control	Options / Su	-		-	aalar Elaatri	. Hormonio	
Magnetics, Outlet Filter:	The second se	JED FOR	UT Propertie	COMP	K - YZ			
Weight	4	Dimensi	ons [in]	2.1	1 C	Lowes	st Nat. Freq	. [Hz]
[lbs]	Length	Wi	dth	He	ight	F-B	S-S	V
19,100	13 <mark>0</mark>	7	'1		78	9.0	7.0	16.0
	UUT	Highest Pas	sed Seismic	Run Infor	mation			
Building Code	Test C <mark>riteria</mark>	S _{DS} (g)	z/h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES <mark>AC15</mark> 6	D/2.00 0	9/2130/20	201.5	3.20	2.40	-	-
CBC 2016	ICC-ES AC156	2.27	0.0	1.5	9	-	1.51	0.61
	Y	Test	Mounting De	etails	0			
Chiller is partially rigid b 7/8" diameter, grade 8 b								

All units were filled with contents and maintained structural integrity and functionality after AC156 test.