



**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

**APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY

APPLICATION #: **OSP – 0323 – 10**

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Trane Commercial Systems

Manufacturer's Technical Representative: Jason Baggett

Mailing Address: 2701 Wilma Rudolph Blvd., Clarksville, TN 37040

Telephone: (931) 221-3722 Email: Jason.Baggett@Trane.com

Product Information

Product Name: IntelliPak II

Product Type: Air Conditioner

Product Model Number: SLHJ090_, SLHJ105_, SLHJ120_, SLHJ130_, SLHJ150_, SXHJ090_, SXHJ105_, SXHJ120_, SXHJ130_, SXHJ150_

(List all unique product identification numbers and/or part numbers)

General Description: This product line includes air-cooled rooftop air conditioner units.

Seismic enhancements made to the test units and modifications required to address anomalies observed during testing shall be incorporated into the production units.

Mounting Description: Rigid floor mount.

Applicant Information


Applicant Company Name: Trane Commercial Systems

Contact Person: Jason Baggett

Mailing Address: 2701 Wilma Rudolph Blvd., Clarksville, TN 37040

Telephone: (931) 221-3722 Email: Jason.Baggett@Trane.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant: 

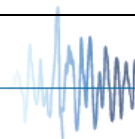
Date: February 22, 2013

Title: Large Commercial Unitary & Lab

Engineering Leader

Company Name: Trane

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





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
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California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: Buehler & Buehler Structural Engineers, Inc.
Name: Ali Sumer California License Number: 5647
Mailing Address: 600 Q Street, Suite 200, Sacramento, CA 95811
Telephone: (916) 443-0303 Email: asumer@bbse.com

Supports and Attachments Preapproval

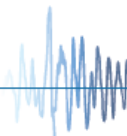
- Supports and attachments are preapproved under OPM- _____
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- Supports and attachments are not preapproved

Certification Method

- Testing in accordance with: ICC-ES AC156
- Other (Please Specify): _____

Testing Laboratory

Company Name: US ARMY ERDC-CERL
Contact Name: James Wilcoski
Mailing Address: 2902 Newmark Drive, Champaign, IL 61826-1076
Telephone: (217) 373-6763 Email: James.wilcoski@usace.army.mil





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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: Yes No

Design Basis of Equipment or Components (F_p/W_p) = 1.6875

S_{DS} (Design spectral response acceleration at short period, g) = 2.25

a_p (In-structure equipment or component amplification factor) = 2.5

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.5

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = (See Table 3)

Overall dimensions and weight (or range thereof) = (See Table 3)

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: Yes No

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

S_{DS} (Design spectral response acceleration at short period, g) = _____

S_{D1} (Design spectral response acceleration at 1 second period, g) = _____

R (Response modification coefficient) = _____

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = _____

I_p (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, 2010: Yes No

List of Attachments Supporting Special Seismic Certification

Test Report(s) Drawings Calculations Manufacturer's Catalog

Other(s) (Please Specify): Test Witness Letter

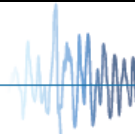
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2019

Signature:  Date: September 30, 2013

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.25 z/h = 1.0

Condition of Approval (if applicable): _____





**Special Seismic Certification OSHPD Preapproval
Trane IntelliPak II Product Line**



Table 1. Certified Unit List

<i>Model Number</i>	<i>Nominal Capacity (tons)</i>	<i>Tested/ Interpolated</i>	<i>Width (in)</i>	<i>Length (in)</i>	<i>Overall Height (in)</i>	<i>Operating Weight (lbs)</i>
SXHJ090	90	Interpolated	139	533.0	104	17,655
SLHJ090	90	UUT-1	139	533.0	104	17,655
SXHJ105	105	Interpolated	139	552.0	104	18,965
SLHJ105	105	Interpolated	139	552.0	104	18,965
SXHJ120	120	Interpolated	139	643.0	104	22,758
SLHJ120	120	Interpolated	139	643.0	104	22,758
SXHJ130	130	Interpolated	139	643.0	104	22,758
SLHJ130	130	Interpolated	139	643.0	104	22,758
SXHJ150	150	UUT-2A, 2B, 2C	139	643.0	104	24,050
SLHJ150	150	UUT-2A, 2B, 2C	139	643.0	104	24,050



**Special Seismic Certification OSHPD Preapproval
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Table 2. Certified Sub-Component List

Supply Fan					
<i>Description</i>	<i>Voltage</i>	<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
DW AF 25"	(see motors)	Comefri	X38010596010	Carbon steel housing, steel blades	UUT-1
DW AF 32"	(see motors)	Comefri	X38010597010	Carbon steel housing, steel blades	interpolated
DW AF 36"	(see motors)	Comefri	X38010598010	Carbon steel housing, steel blades	interpolated
DW AF 40"	(see motors)	Comefri	X38010599010	Carbon steel housing, steel blades	UUT-2A

Supply Fan Motors - Open Drip Proof					
<i>Description</i>	<i>Voltage</i>	<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
15 Hp	460	Baldor	X70421222010	Carbon steel casing	UUT-1
20 Hp	460	Baldor	X70421201010	Carbon steel casing	interpolated
25 Hp	460	Baldor	X70421202010	Carbon steel casing	interpolated
30 Hp	460	Baldor	X70421223010	Carbon steel casing	interpolated
40 Hp	460	Baldor	X70421213010	Carbon steel casing	interpolated
50 Hp	460	Baldor	X70370555020	Carbon steel casing	interpolated
60 Hp	460	Baldor	X70370557010	Carbon steel casing	interpolated
75 Hp	460	Baldor	X70370559010	Carbon steel casing	interpolated
100 Hp	460	Baldor	X70370561010	Carbon steel casing	UUT-2A

Supply Fan VFD - With Bypass					
<i>Description</i>	<i>Voltage</i>	<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
15 Hp	460	Danfoss	X1317085340	Carbon steel casing	UUT-1
20 Hp	460	Danfoss	X1317085343	Carbon steel casing	interpolated
25 Hp	460	Danfoss	X1317085346	Carbon steel casing	interpolated
30 Hp	460	Danfoss	X1317085374	Carbon steel casing	interpolated
40 Hp	460	Danfoss	X1317085349	Carbon steel casing	interpolated
50 Hp	460	Danfoss	X1317085352	Carbon steel casing	interpolated
60 Hp	460	Danfoss	X1317085385	Carbon steel casing	interpolated
75 Hp	460	Danfoss	X1317085386	Carbon steel casing	interpolated
100 Hp	460	Danfoss	X1317085387	Carbon steel casing	UUT-2A

Return Fan					
<i>Description</i>	<i>Voltage</i>	<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
Air Foil Plenum 36.5" dia. Horizontal	(see motors)	TwinCity	X38010674010	Carbon steel housing, steel blades	UUT-1
Air Foil Plenum 40" dia. Horizontal	(see motors)	TwinCity	X38010675010	Carbon steel housing, steel blades	interpolated
Air Foil Plenum 44" dia. Horizontal	(see motors)	TwinCity	X38010676010	Carbon steel housing, steel blades	UUT-2A



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Table 2. Certified Sub-Component List

Return Fan Motors - Open Drip Proof					
<i>Description</i>	<i>Voltage</i>	<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
7.5 Hp	460	Baldor	X70421221010	Carbon steel casing	UUT-1
10 Hp	460	Baldor	X70421200010	Carbon steel casing	interpolated
15 Hp	460	Baldor	X70421222010	Carbon steel casing	interpolated
20 Hp	460	Baldor	X70421201010	Carbon steel casing	interpolated
25 Hp	460	Baldor	X70421202010	Carbon steel casing	interpolated
30 Hp	460	Baldor	X70421223010	Carbon steel casing	interpolated
40 Hp	460	Baldor	X70421213010	Carbon steel casing	interpolated
50 Hp	460	Baldor	X70370555020	Carbon steel casing	UUT-2A

Return Fan VFD - With bypass					
<i>Description</i>	<i>Voltage</i>	<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
7.5 Hp	460	Danfoss	X1317085338	Carbon steel casing	UUT-1
10 Hp	460	Danfoss	X1317085339	Carbon steel casing	interpolated
15 Hp	460	Danfoss	X1317085340	Carbon steel casing	interpolated
20 Hp	460	Danfoss	X1317085343	Carbon steel casing	interpolated
25 Hp	460	Danfoss	X1317085346	Carbon steel casing	interpolated
30 Hp	460	Danfoss	X1317085374	Carbon steel casing	interpolated
40 Hp	460	Danfoss	X1317085349	Carbon steel casing	interpolated
50 Hp	460	Danfoss	X1317085352	Carbon steel casing	UUT-2A

Condenser Fan					
<i>Description</i>	<i>Voltage</i>	<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
30" dia. Propeller	(see motors)	Revcor	X38010659010	Carbon steel housing, steel blades	UUT-1, UUT-2B, UUT-2C

Condenser Fan Motor					
<i>Description</i>	<i>Voltage</i>	<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
1.5 hp	460	AO Smith	X70370512030	Carbon steel casing	UUT-1, UUT-2B, UUT-2C

Condenser Fan VFD					
<i>Description</i>	<i>Voltage</i>	<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
1.5 hp	460	Danfoss	X1317085220	Carbon steel casing	UUT-1, UUT-2B, UUT-2C

Liquid Line solenoid Valves					
<i>Description</i>	<i>Voltage</i>	<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
Valve - 7/8 " OD	460	Sporlan	X13321297010	Copper tube / Steel	UUT-1, UUT-2



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Table 2. Certified Sub-Component List

Scroll Compressors					
Tonnage	Voltage	Manufacturer	Part No.	Material	UUT
20 tons	460	IR	570011062200	Carbon Steel	UUT-1
25 tons	460	IR	570011072200	Carbon Steel	interpolated
32 tons	460	IR	570011082200	Carbon Steel	UUT-2B, UUT-2C

Thermal Expansion Valves					
Description	Voltage	Manufacturer	Part No.	Material	UUT
20 Ton Valve	460	Sporlan	X15111659070	Copper tube / Al fins	UUT-1, UUT-2B, UUT-2C
25 Ton Valve	460	Sporlan	X15111659080	Copper tube / Al fins	UUT-1, UUT-2B, UUT-2C

Evaporator Coils					
Description (Number: Length, Height, Rows)		Manufacturer	Part No.	Material	UUT
1/2" tube Coil		IR	175222620010	Copper tube / Al fins	UUT-1, UUT-2

Condenser Coils (MicroChannel)					
Description (Number: Length, Height, Rows, Tube Width)		Manufacturer	Part No.	Material	UUT
MicroChannel		Delphi	1751_4953	Aluminum	UUT-1, UUT-2B, UUT-2C

Reheat Coils					
Description (Number: Length, Height, Rows)		Manufacturer	Part No.	Material	UUT
3/8" tube		IR	175223410010	Copper tube / Al fins	UUT-2A

Heaters (Hot water)					
Width, Rows, Fin Series)	Heat	Manufacturer	Part No.	Material	UUT
88", 2, 80	low	IR	175151580010	Copper tube / Al fins	UUT-1
88", 2, 122	high	IR	175151580020	Copper tube / Al fins	interpolated
110", 2, 80	low	IR	175150400010	Copper tube / Al fins	interpolated
110", 2, 122	high	IR	175150400020	Copper tube / Al fins	UUT-2A

Traq Dampers					
Type, Quantity, Diameter		Manufacturer	Part No.	Material	UUT
Single Blade: Four - 24"		Ruskin	X05250370010	Aluminum	UUT-1
Single Blade: Four - 28"		Ruskin	X05250371010	Aluminum	UUT -2B, UUT-2C



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Table 2. Certified Sub-Component List

Return Damper					
<i>Width</i>		<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
Parallel Blade: Two - 71.3", 24.9"		IR	X09050493040	Carbon Steel	UUT-1
Parallel Blade: Two - 71.3", 33.8"		IR	X09050493050	Carbon Steel	UUT -2A

Return/ TRAQ Damper Actuator					
<i>Description</i>		<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
Spring Return		Honeywell	X13611083010	Carbon Steel	UUT-1

Exhaust Damper for Return Fans					
<i>Type, Quantity, Height, Width</i>		<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
Parallel Blade: Two - 33.75", 57"		IR	175174000010	Carbon Steel	UUT-1, UUT-2A

Fresh Air Mist Eliminator					
<i>Type, Quantity, Height, Width</i>		<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
Configured Blade: Two - 82.7", 31.9"		IR	175162100010	Carbon Steel	UUT -1
Configured Blade: Two - 82.7", 41.9"		IR	175163550010	Carbon Steel	UUT -2A

Filters Pre Evap					
<i>Description</i>		<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
90-95% Bag Filters with 2" Pre Filters		American Air Filter	175158570010	Cardboard, Fiberglass, Polyester	UUT1, UUT-2A, UUT-2B, UUT-2C
90-95% Cartridge Filters with 2" Pre Filters		American Air Filter	175177460010	Cardboard, Fiberglass, Polyester	UUT1, UUT-2A, UUT-2B, UUT-2C
90-95% Low Pressure Drop Cartridge Filters with 2" Pre Filters		American Air Filter	175162270010	Cardboard, Fiberglass, Polyester	UUT1, UUT-2A, UUT-2B, UUT-2C

Filters Final					
<i>Description</i>		<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
HEPA with 2" Pre Filter		American Air Filter	175217730010	Hepa	UUT-1, UUT-2A

Unit Base Frame / Skin					
<i>Description</i>		<i>Manufacturer</i>	<i>Part No.</i>	<i>Material</i>	<i>UUT</i>
Base and Roof Rail: Roll Formed		IR		Carbon Steel	UUT1, UUT-2A, UUT-2B, UUT-2C
Foam Insulated Panels, Doors, Roof and Base		IR		Carbon Steel, Injected Foam Insulation	UUT1, UUT-2A, UUT-2B, UUT-2C



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Table 3. UUT Summary

<i>Model Number</i>	<i>Size/Description</i>	<i>UUT Mark</i>	<i>Mounting</i>	<i>Excitation Direction</i>	<i>Frequency (Hz)</i>	<i>Width (in)</i>	<i>Length (in)</i>	<i>Overall Height (in)</i>	<i>Tested Weight (lbs)</i>
SLHJ0904G**334FEDD75E12E0*00C3100*01C1	90 ton	UUT-1	Base - Rigid Mount	X	6.6	139"	533"	104"	21,750
				Y	5.7				
				Z	21.1				
SLHJ1504N**631PCCLB5E12E0*00C3100*01C1	150 ton (Air Handler Section)	UUT-2A	Base - Rigid Mount	X	5.8	139"	492"	104"	21,495
				Y	4.8				
				Z	N/A				
SLHJ1504N**631PCCLB5E12E0*00C3100*01C1	150 ton (Condenser Section - end panels attached)	UUT-2B	Base - Rigid Mount	X	4.8	139"	148"	104"	6,880
				Y	5.4				
				Z	14.3				
SLHJ1504N**631PCCLB5E12E0*00C3100*01C1	150 ton (Condenser Section - end panels removed)	UUT-2C	Base - Rigid Mount	X	4.9	139"	148"	104"	6,880
				Y	6.8				
				Z	12.3				



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Table 4. UUT Summary Sub-Component List

UUT-1 SLHJ0904GP0334FEDD75E12E0E0002100L0101			
Type	Description	Manufacturer	Part #
Supply Fan	DW AF 25"	Comefri	X38010596010
Supply Fan Motor - Open Drip Proof	15 Hp	Baldor	X70421222010
Supply Fan VFD - With Bypass	15 Hp	Danfoss	X1317085340
Return Fan	Air Foil Plenum 36.5" dia. Horizontal	TwinCity	X38010674010
Return Fan Motor - Open Drip Proof	7.5 Hp	Baldor	X70421221010
Return Fan VFD - With Bypass	7.5 Hp	Danfoss	X1317085338
Condenser Fan	30" dia. Propeller	Revcor	X38010659010
Condenser Fan Motor	7.5 Hp	Danfoss	X1317085338
Condenser Fan VFD	1.5 hp	Danfoss	X1317085220
Liquid Line Solenoid Valve	Valve - 7/8 " OD	Sporlan	X13321297010
Scroll Compressor	20 tons	IR	570011062200
Thermal Expansion Valve	32 tons	IR	570011082200
Evaporator Coil	1/2" tube Coil	IR	175222620010
Condenser Coil	MicroChannel	Delphi	1751_4953
Heater	Two - 5W Prima Flo, 33", 88", 2, 80	IR	175151580010
Traq Damper	Single Blade: Four - 24"	Ruskin	X05250370010
Return Damper	Parallel Blade: Two - 71.3", 24.9"	IR	X09050493040
Return/Traq Damper	Spring Return	Honeywell	X13611083010
Exhaust Damper for Return Fan	Parallel Blade: Two - 33.75", 57"	IR	175174000010
Fresh Air Mist Eliminator	Configured Blade: Two - 82.7", 31.9"	IR	175162100010
Filters Pre Evap	90-95% Bag Filters with 2" Pre Filters	American Air Filter	175158570010
Filters Pre Evap	90-95% Cartridge Filters with 2" Pre Filters	American Air Filter	175177460010
Filters Pre Evap	Pre Filters	American Air Filter	175162270010
Filters Final	HEPA with 2" Pre Filter	American Air Filter	175217730010
Unit Base	Base and Roof Rail: Roll Formed	IR	
Unit Skin	Foam Insulated Panels, Doors, Roof and Base	IR	

UUT-2A SLHJ1504RP0631PCCLB5E12E0E00C3100L01C1			
Type	Description	Manufacturer	Part #
Supply Fan	DW AF 40"	Comefri	X38010599010
Supply Fan Motor - Open Drip Proof	100 Hp	Baldor	X70370561010
Supply Fan VFD - With Bypass	100 Hp	Danfoss	X1317085387
Return Fan	Air Foil Plenum 44".dia. Horizontal	TwinCity	X38010676010
Return Fan Motor - Open Drip Proof	50 Hp	Baldor	X70370555020
Evaporator Coil	1/2" tube Coil	IR	175222620010
Reheat Coil	3/8" tube	IR	175223410010
Heater	Two - 5W Prima Flo, 33", 110", 2, 122	IR	175150400020
Return Damper	Parallel Blade: Two - 71.3", 33.8"	IR	X09050493050
Exhaust Damper for Return Fan	Parallel Blade: Two - 33.75", 57"	IR	175174000010
Fresh Air Mist Eliminator	Configured Blade: Two - 82.7", 41.9"	IR	175163550010
Filters Pre Evap	90-95% Bag Filters with 2" Pre Filters	American Air Filter	175158570010
Filters Pre Evap	90-95% Cartridge Filters with 2" Pre Filters	American Air Filter	175177460010
Filters Pre Evap	Pre Filters	American Air Filter	175162270010
Filters Final	HEPA with 2" Pre Filter	American Air Filter	175217730010
Unit Base	Base and Roof Rail: Roll Formed	IR	
Unit Skin	Foam Insulated Panels, Doors, Roof and Base	IR	



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Table 4. UUT Summary Sub-Component List

UUT-2B SLHJ1504RP0631PCCLB5E12E0E00C3100L01C1			
Type	Description	Manufacturer	Part #
Condenser Fan	30" dia. Propeller	Revcor	X38010659010
Condenser Fan Motor	1.5 hp	AO Smith	X70370512030
Condenser Fan VFD	1.5 hp	Danfoss	X1317085220
Liquid Line Solenoid Valve	Valve - 7/8 " OD	Sporlan	X13321297010
Scroll Compressor	32 tons	IR	570011082200
Thermal Expansion Valve	20 Ton Valve	Sporlan	X15111659070
Thermal Expansion Valve	25 Ton Valve	Sporlan	X15111659080
Condenser Coil	MicroChannel	Delphi	1751_4953
Traq Damper	Single Blade: Four - 28"	Ruskin	X05250371010
Unit Base	Base and Roof Rail: Roll Formed	IR	
Unit Skin	Foam Insulated Panels, Doors, Roof and Base	IR	

UUT-2C SLHJ1504RP0631PCCLB5E12E0E00C3100L01C1			
Type	Description	Manufacturer	Part #
Condenser Fan	30" dia. Propeller	Revcor	X38010659010
Condenser Fan Motor	1.5 hp	AO Smith	X70370512030
Condenser Fan VFD	1.5 hp	Danfoss	X1317085220
Liquid Line Solenoid Valve	Valve - 7/8 " OD	Sporlan	X13321297010
Scroll Compressor	32 tons	IR	570011082200
Thermal Expansion Valve	20 Ton Valve	Sporlan	X15111659070
Thermal Expansion Valve	25 Ton Valve	Sporlan	X15111659080
Condenser Coil	MicroChannel	Delphi	1751_4953
Traq Damper	Single Blade: Four - 28"	Ruskin	X05250371010
Unit Base	Base and Roof Rail: Roll Formed	IR	
Unit Skin	Foam Insulated Panels, Doors, Roof and Base	IR	



Model Number Descriptions

S X H J 105 4 0 A A 7 1 5 M F D E 8 1 D 1 1 0 0 A 1 B A 1 0 0 0 A A 1 A 1
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38

DIGIT 1 – UNIT TYPE

S Self-Contained (Packaged Rooftop)

DIGIT 2 – UNIT FUNCTION

E DX Cooling, Electric Heat
 F DX Cooling, Natural Gas Heat
 L DX Cooling, Hot Water Heat
 S DX Cooling, Steam Heat
 X DX Cooling, No Heat, Extended Casing

DIGIT 3 – SYSTEM TYPE

H Single Zone

DIGIT 4 – DEVELOPMENT SEQUENCE

J Ninth

DIGIT 5, 6, 7 – NOMINAL CAPACITY

090 90 Ton Air-Cooled
 105 105 Ton Air-Cooled
 120 120 Ton Air-Cooled
 130 130 Ton Air-Cooled
 150 150 Ton Air-Cooled
 100 100 Ton Evap Condenser
 118 118 Ton Evap Condenser
 128 128 Ton Evap Condenser
 140 140 Ton Evap Condenser
 162 162 Ton Evap Condenser

DIGIT 8 – VOLTAGE SELECTION

4 460/60/3 XL
 5 575/60/3 XL
 C 380/50/3 XL

DIGIT 9 – HEATING CAPACITY SELECTION

0 No Heat
 1 Electric heat 90/56 kW 60/50 Hz
 2 Electric heat 140/88 kW 60/50 Hz
 3 Electric heat 265/166 kW 60/50 Hz
 4 Electric Heat 300/188 kW 60/50 Hz
 A Low Gas Heat – 2-stage
 B Medium Gas Heat – 2-stage
 C High Gas Heat – 2-stage
 D Low Gas Heat – Modulating
 E Medium Gas Heat – Modulating
 F High Gas Heat – Modulating

Steam or Hot Water Heat:

G Low Heat - 1.0" (25mm) Valve
 H Low Heat - 1.25" (32mm) Valve
 J Low Heat - 1.5" (38mm) Valve
 K Low Heat - 2.0" (50mm) Valve
 L Low Heat - 2.50" (64mm) Valve
 M Low Heat - 3.0" (76mm) Valve
 N High Heat - 1.0" (25mm) Valve
 P High Heat - 1.25" (32mm) Valve
 Q High Heat - 1.5" (38mm) Valve
 R High Heat - 2.0" (50mm) Valve
 T High Heat - 2.50" (64mm) Valve
 U High Heat - 3.0" (76mm) Valve

DIGIT 10, 11 – DESIGN SEQUENCE

A-ZZ (Factory Assigned) Sequence may be any letter A to Z, or any digit 1 to 9.

DIGIT 12 – UNIT CONFIGURATION SELECTION

1 One-Piece Unit w/o Blank Section
 2 One-Piece Unit w/4' Blank Section
 3 One-Piece Unit w/8' Blank Section
 4 Two-Piece Unit w/o Blank Section
 5 Two-Piece Unit w/4' Blank Section
 6 Two-Piece Unit w/8' Blank Section
 7 Three-Piece unit w/o Blank Section
 8 Three-Piece Unit w/4' Blank Section
 9 Three-Piece Unit w/8' Blank Section

DIGIT 13 – AIRFLOW DIRECTION

1 Downflow Supply /Upflow Return
 2 Downflow Supply / Horiz End Return
 3 Downflow Supply / Horiz Right Return
 4 Right Side Horiz Supply/Upflow Return
 5 Right Side Horiz Supply / Horizontal End Return
 6 Right Side Horiz Supply / Horizontal Right Return

DIGIT 14 – SUPPLY FAN OPTIONS

1 Standard CFM
 3 Standard CFM - TEFC Motor(s)
 4 Low CFM
 6 Low CFM - TEFC Motor(s)

DIGIT 15 – SUPPLY FAN MOTOR SELECTION

F 15 hp
 G 20 Hp
 H 25 Hp
 J 30 Hp
 K 40 Hp
 L 50 Hp
 M 60 Hp
 N 75 Hp
 P 100 Hp

DIGIT 16 – SUPPLY FAN RPM SELECTION

7 700
 8 800
 9 900
 A 1000
 B 1100
 C 1200
 D 1300
 E 1400
 F 1500
 G 1600
 H 1700
 J 1800
 K 1900
 L 2000

DIGIT 17 – EXHAUST/RETURN FAN OPTIONS

0 None
 1 Std CFM Exhaust Fan w/o Statitrac CV Only
 2 Low CFM Exhaust Fan w/o Statitrac CV Only
 3 Std CFM Exhaust w/o VFD w/ Statitrac
 4 Low CFM Exhaust w/o VFD w/ Statitrac
 5 Std CFM Exhaust w/ VFD w/ Bypass w/ Statitrac
 6 Low CFM Exhaust w/ VFD w/ Bypass w/ Statitrac
 7 Std CFM Exhaust w/ VFD w/o Bypass w/ Statitrac
 8 Low CFM Exhaust w/ VFD w/o Bypass w/ Statitrac
 A Std CFM Return w/o Statitrac CV Only
 B Low CFM Return w/o Statitrac CV Only
 C Std CFM Return w/ VFD w/ Bypass w/ Statitrac
 D Low CFM Return w/ VFD w/ Bypass w/ Statitrac
 E Std CFM Return w/ VFD w/o Bypass w/ Statitrac
 F Low CFM Return w/ VFD w/o Bypass w/ Statitrac



Model Number Descriptions

DIGIT 18 – EXHAUST/RETURN FAN MOTOR SELECTION

- 0 None
- D 7.5 Hp
- E 10 Hp
- F 15 Hp
- G 20 Hp
- H 25 Hp
- J 30 Hp
- K 40 Hp
- L 50 Hp
- M 60 Hp

DIGIT 19 – EXHAUST/RETURN RPM SELECTION

- 0 None
- 3 300
- 4 400
- 5 500
- 6 600
- 7 700
- 8 800
- 9 900
- A 1000
- B 1100
- C 1200
- D 1300
- E 1400

DIGIT 20 – SYSTEM CONTROL SELECTION

- 1 Constant Volume (CV) (Zone Temperature Control)
- 2 CV w/ Discharge Temp Control
- 4 VAV w/ VFD Supply w/o Bypass (Discharge Temp Control)
- 5 VAV w/ VFD Supply w/ Bypass (Discharge Temp Control)
- 6 VAV – Single Zone VAV w/VFD w/o Bypass (Zone Temperature Control)
- 7 VAV – Single Zone VAV w/VFD w/ Bypass (Zone Temperature Control)

DIGIT 21 – FRESH AIR and ECONOMIZER OPTION/CONTROLS

- A 0-25% Motorized Damper
- B Economizer w/Dry Bulb
- C Economizer w/Reference Enthalpy
- D Economizer w/Comparative Enthalpy
- E Econ w/Fresh Air Measure/Dry Bulb
- F Econ w/Fresh Air Measure/Ref Enthalpy
- G Econ w/Fresh Air Measure/Comp Enthalpy
- H Econ w/DCV/Dry Bulb¹
- J Econ w/DCV/Ref Enthalpy¹
- K Econ w/DCV/Comp Enthalpy¹

¹ Requires CO₂ Zone Sensor(s)

DIGIT 22 – DAMPER OPTION

- 0 Standard
- 1 Low Leak
- 2 Ultra Low Leak

DIGIT 23 – PRE-EVAPORATOR COIL FILTER SELECTION

- 0 Two Inch High Efficiency Throwaway
- 1 Two Inch Throwaway Rack/Less Filters
- 2 90-95% Bag Filters w/Prefilters
- 3 Bag Filter Rack/Less Filters
- 4 90-95% Cartridge Filters w/ Prefilters
- 5 Cartridge Rack/Less Filters
- 6 90-95% Low Pressure Drop Cartridge Filters w/ Prefilters
- 7 Low Pressure Drop Cartridge Rack/Less Filters

DIGIT 24 – BLANK SECTION APPLICATION OPTIONS

- 0 None
- A 90-95% Bag w/Prefilters
- B 90-95% Low Pressure Drop Cartridge w/ Prefilters
- C 90-95% Cartridge Filters w/ Prefilters
- D 90-95% High Temp Cartridge w/ Prefilters
- E HEPA w/Prefilters
- F High Temp HEPA w/Prefilters

DIGIT 25 – ENERGY RECOVERY WHEEL

- 0 None
- 1 Low CFM ERW w/ Bypass Defrost
- 2 Standard CFM ERW w/ Bypass Defrost

DIGIT 26 – UNIT MOUNTED POWER CONNECTION SELECTION

- A Terminal Block
- B Non-Fused Disconnect
- C Non-Fused Disconnect w/ Powered Convenience Outlet
- D Circuit Breaker w/ high fault SCCR
- E Circuit Breaker w/ high fault SCCR/ Powered Convenience Outlet

DIGIT 27 – CONDENSER COIL SELECTION

- 0 Air-Cooled Aluminum
- 1 Air-Cooled Copper
- A Evap Condenser
- B Evap Condenser w/ Sump Heater
- C Evap Condenser w/ Dolphin WaterCare System
- D Evap Condenser w/ Dolphin WaterCare System & Sump Heater
- E Evap Condenser w/ Conductivity Controller
- F Evap Condenser w/ Conductivity Controller and Sump Heater

DIGIT 28 – EVAPORATOR COIL AND DRAIN PAN

- 0 Standard Evap Coil w/Galvanized Drain Pan
- A Standard Evap Coil w/ Stainless Steel Drain Pan
- B High Cap Evap Coil w/Galvanized Drain Pan
- C High Cap Evap Coil w/Stainless Steel Drain Pan

DIGIT 29 – REFRIGERATION SYSTEM SELECTION A

- 0 Standard
- A Suction Service Valves
- B Replaceable Core Liquid Filter Driers
- C Suction Service Valves & Replaceable Core Liquid Filter Driers

DIGIT 30 – REFRIGERATION SYSTEM SELECTION B

- 0 Standard
- 1 Hot Gas Reheat²
- 2 Hot Gas By-Pass
- 3 Hot Gas Reheat²/Hot Gas By-Pass

DIGIT 31 – AMBIENT CONTROL OPTION

- 0 Standard Ambient
- 1 Low Ambient

DIGIT 32 – HIGH DUCT TEMP THERMOSTAT

- 0 None
- 1 High Duct Temp Thermostat

DIGIT 33 – CONTROLS OPTION

- 0 None
- 1 Remote Human Interface (RHI) & Inter-Processor Communication Bridge (IPCB)
- 2 IPCB
- 3 Rapid Restart

² Humidity sensor required



Model Number Descriptions

DIGIT 34 – MODULE OPTIONS

- 0 None
- A 0-5 volt Generic Building Automation System (GBAS)
- B 0-10 volt GBAS
- C 0-5 volt GBAS and 0-10 volt GBAS
- F LonTalk® Communication Interface (LCI)
- D Ventilation Override
- G 0-5 volt GBAS volt & Ventilation Override
- H 0-10 volt GBAS & Ventilation Override
- J 0-5 volt GBAS and 0-10 volt GBAS & Ventilation Override
- L LCI & Ventilation Override
- M BACnet Communication Interface (BCI)
- N BCI & Ventilation Override

DIGIT 35 – ZONE SENSOR OPTION

- 0 None
- A Dual Setpoint w/Man/Auto Changeover – BAYSENS108
- B Dual Setpoint w/Man/Auto Chgover & Sys Lights – BAYSENS110
- C Room Sensor w/timed Override & Cancel – BAYSENS073
- D Room Sensor w/TO (Timed Override) & Cancel & Local Stpt Adj – BAYSENS074
- G VAV w/System Lights – BAYSENS021
- L Programmable Night Setback – BAYSENS119

DIGIT 36 – AGENCY APPROVAL OPTION

- 0 None
- 1 cULus

DIGIT 37 – SERVICE ENHANCEMENTS

- 0 Single Side Access Door
- A Dual Side Access Door
- B Single Side Access Doors/ Marine Lights
- C Dual Side Access Doors/ Marine Lights

DIGIT 38 – MISCELLANEOUS OPTIONS

- 0 None
- 1 Belt Guards
- 2 Burglar Bars
- 3 Belt Guards/Burglar Bars

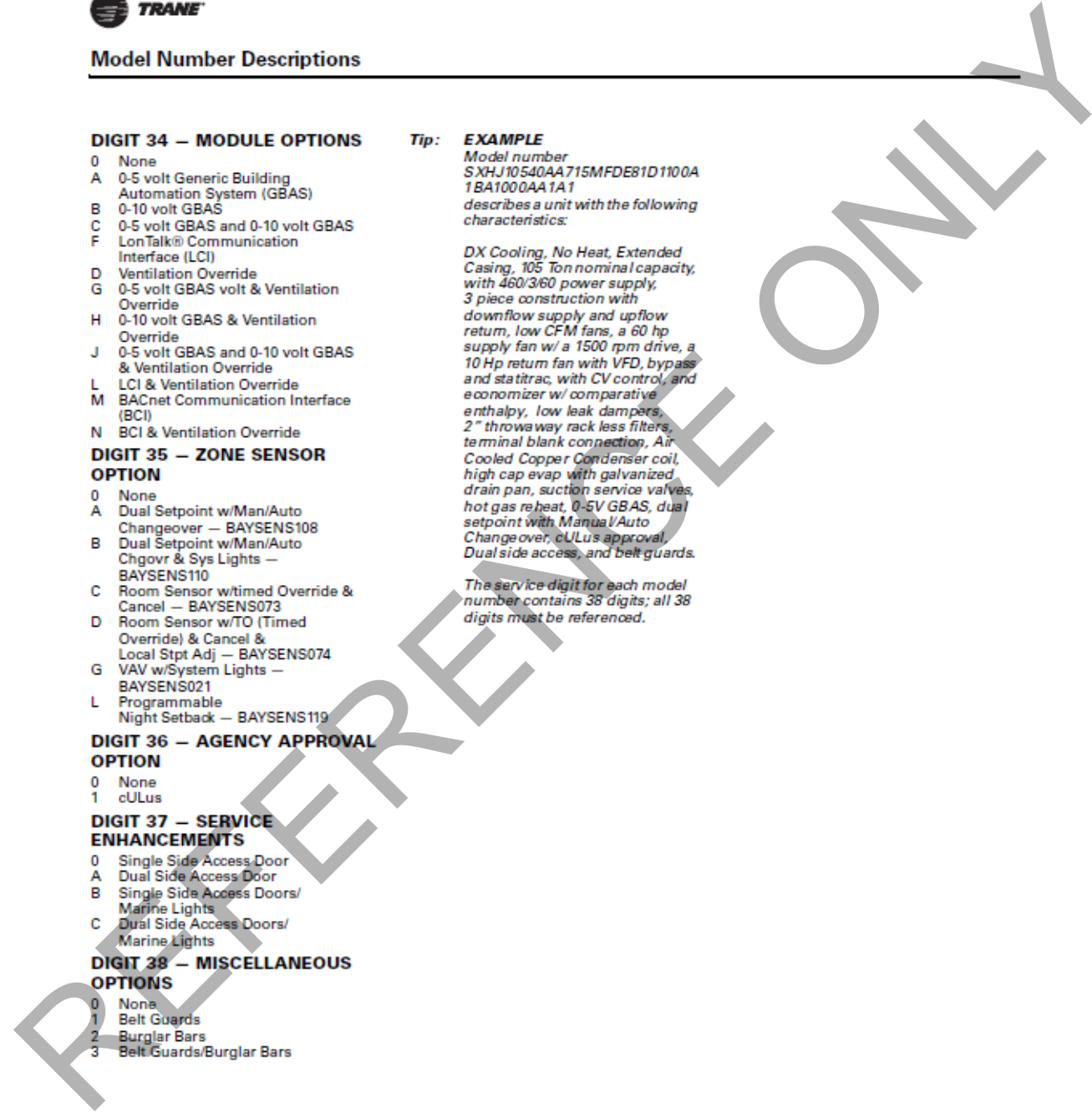
Tip:

EXAMPLE

Model number
 SXHJ10540AA715MFDE81D1100A
 1BA1000AA1A1
 describes a unit with the following characteristics:

DX Cooling, No Heat, Extended Casing, 105 Ton nominal capacity, with 460/3/60 power supply, 3 piece construction with downflow supply and upflow return, low CFM fans, a 60 hp supply fan w/ a 1500 rpm drive, a 10 Hp return fan with VFD, bypass and statitrac, with CV control, and economizer w/ comparative enthalpy, low leak dampers, 2" throwaway rack less filters, terminal blank connection, Air Cooled Copper Condenser coil, high cap evap with galvanized drain pan, suction service valves, hot gas reheat, 0-5V GBAS, dual setpoint with Manual/Auto Changeover, cULus approval, Dual side access, and belt guards.

The service digit for each model number contains 38 digits; all 38 digits must be referenced.



Shake Table Test Setup Test #1

UUT Designation	UUT-1	Seismic Parameters							
Identification No.	SLHJ0904GP0334FEDD75E12E0E0002100L0101	Building Code	Test Criteria	S _{DS} (g)	z/h	Horizontal		Vertical	
Attachment Method	Base mounted with #14SMS @ 6" o.c.					A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
		CBC 2013	ICC-ES AC156-12	2.25	1.0	3.60	2.70	1.5	0.6



Notes: The UUT was full of content during the test.
 After the test, the UUT was functional and the structural integrity of the attachment and force-resisting systems were maintained.

Shake Table Test Setup Test #2

UUT Designation	UUT-2A	Seismic Parameters							
Identification No.	SLHJ1504RP0631PCCLB5E12E0E00C3100L01C1	Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
Attachment Method	Base mounted with #14SMS @ 6" o.c.					A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
		CBC 2013	ICC-ES AC156-12	2.25	1.0	3.60	2.70	1.5	0.6



Notes: The UUT was full of content during the test.
After the test, the UUT was functional and the structural integrity of the attachment and force-resisting systems were maintained.

Shake Table Test Setup Test #3

UUT Designation	UUT-2B	Seismic Parameters							
Identification No.	SLHJ1504RP0631PCCLB5E12E0E00C3100L01C1	Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
Attachment Method	Base mounted with #14SMS @ 6" o.c.					A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
		CBC 2013	ICC-ES AC156-12	2.25	1.0	3.60	2.70	1.5	0.6



Notes: The UUT was full of content during the test.
 After the test, the UUT was functional and the structural integrity of the attachment and force-resisting systems were maintained.

Shake Table Test Setup		Test #4		Seismic Parameters					
UUT Designation	UUT-2C	Building Code	Test Criteria	S_{Ds} (g)	z/h	Horizontal		Vertical	
Identification No.	SLHJ1504RP0631PCCLB5E12E0E00C3100L01C1					A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
Attachment Method	Base mounted with #14SMS @ 6" o.c.	CBC 2013	ICC-ES AC156-12	2.25	1.0	3.60	2.70	1.5	0.6



Notes: The UUT was full of content during the test.
After the test, the UUT was functional and the structural integrity of the attachment and force-resisting systems were maintained.