

Specification Sheet

SoHo-w Hydronic Fan-Powered Linear Terminal (Low Profile Heating)

Description

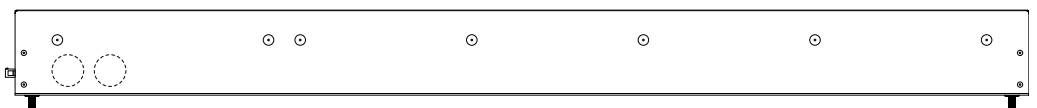
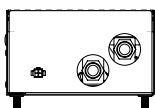
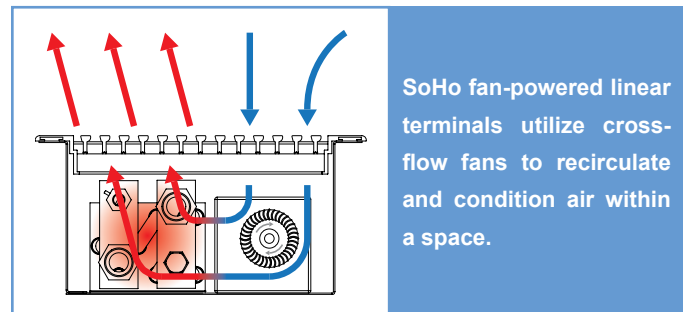
SoHo-w Hydronic Fan-Powered Linear Terminal is designed to create an efficient and simple solution to meet perimeter heating needs, in a variety of residential and commercial applications.

The low profile terminal housing is 20 gauge (1mm) galvanized steel, pre-painted black. It is designed primarily for low-height raised access floor and recessed perimeter trench installation. Multiple mounting options are available; the terminal can be suspended from raised access floor tiles via support flanges, or it can be set directly on a floor (or subfloor) on threaded adjustable leveling legs, which provide up to 1" (25mm) of height adjustment.

The hydronic fin pack has been rated in accordance with AHRI Standard 410; rows are 3/8"Ø (9.5mm) copper tubing with 1/2" NPT (15mm) supply and return connections. Finned length varies based on overall terminal length and performance specification.

Air flow is provided by 24VDC cross-flow fans. Primary power and controls are housed externally in a separate SoHo Hub control box; signals are transmitted via Plug & Play moxlex connection. One (1) PAP-1J Plug and Play cable is included.

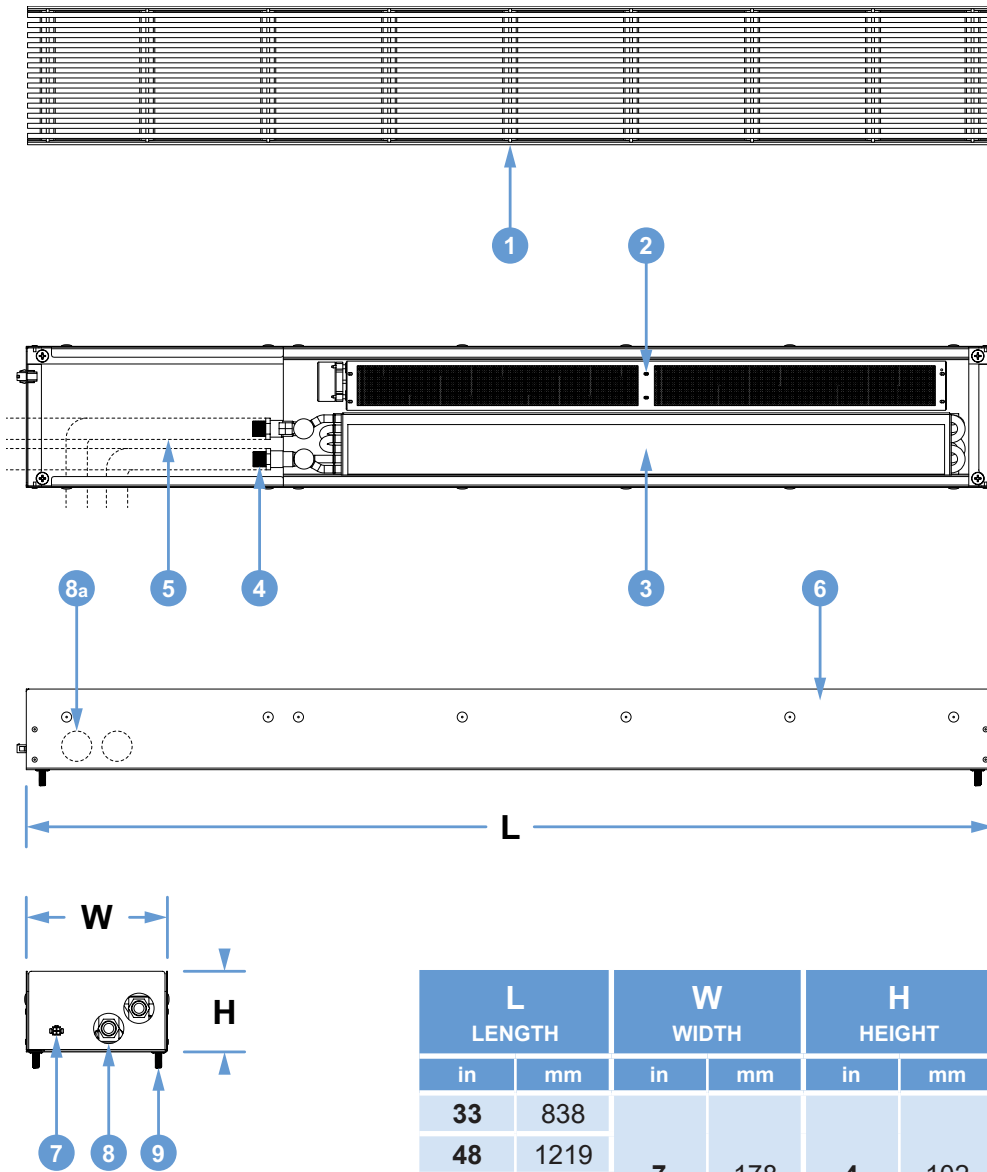
The linear grille is available as extruded aluminum or stainless steel, in a variety of sizes and configurations. Ten (10) standard colors are available; custom colors and finishes can be provided to match architectural design (specify on order).



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Unit Detail



1. Linear grille (optional extruded aluminum or stainless steel; specify on order)
2. 24 VDC ECM cross-flow fans with finger guards
3. Hydronic heating fin pack
4. 20 guage (1mm) galvanized steel casing
5. 1/2" NPT (15mm) supply / return connections
6. Piping connections (by others)
7. Molex PAP power & control cable access
8. Piping connection access
- 8a. Alternate piping connection access (specify on order)
9. Threaded leveling legs (optional; specify on order)

L LENGTH		W WIDTH		H HEIGHT	
in	mm	in	mm	in	mm
33	838	7	178	4	102
48	1219				
62	1575				
78	1981				
ALL DIMENSIONS NOMINAL ± 0.1" (2.5mm)					

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Features

- 20 Gauge (1mm) galvanized steel terminal housing, pre-painted flat black
- Multiple grille configurations available (specify on order)
 - Extruded aluminum / stainless steel (304 / 316 Series)
 - Flanged or flangeless configurations
 - Ten (10) standard colors; additional colors and finishes available at architect's choice (specify on order)
- Optional threaded leveling legs for unit height adjustment
 - 1" (25mm) manual height adjustment
- Single-point modular Plug & Play power & control connection
- Hydronic fin pack (performance rated in accordance with AHRI Standard 410)
 - Variable finned length (based on terminal length and performance specification)
 - 3/8"Ø (9.5mm) copper rows
 - 1/2" NPT (15mm) supply / return connections
- 24VDC variable speed ECM cross-flow fans (sizes and configurations based on terminal / heater length)

Specifications

Application:	Low Profile Fan-Powered Heating Raised Access Floors / Recessed Perimeter Trenches
Terminal Construction:	Galvanized Steel 20 Gauge (1mm) Pre-Painted Black
Terminal Dimensions: LxWxH (Nominal)	33" x 7" x 4" (838mm x 178mm x 102mm) 48" x 7" x 4" (1219mm x 178mm x 102mm) 62" x 7" x 4" (1575mm x 178mm x 102mm) 78" x 7" x 4" (1981mm x 178mm x 102mm)
Grille Configuration:	Extruded Aluminum 304 / 316 Series Stainless Steel (Specify On Order)
Air Flow Capacity: (Nominal Maximum)	One (1) Fan 62 cfm (105 m ³ /hr) Minimum 33"L (838mm) Unit Two (2) Fans 125 cfm (213 m ³ /hr) Minimum 48"L (1219mm) Unit Three (3) Fans 185 cfm (315 m ³ /hr) Minimum 62"L (1575mm) Unit Four (4) Fans 250 cfm (425 m ³ /hr) Minimum 78"L (1981mm) Unit
Heating Capacity: (Based on Following Conditions) • Fan Speed: 80% • Entering Air Temp: 68°F (20°C) • Entering Water Temp: 170°F (77°C) • Leaving Water Temp: 150°F (66°C)	3,105 Btu/h Minimum 33"L (838mm) Unit 7,114 Btu/h Minimum 48"L (1219mm) Unit 10,360 Btu/h Minimum 62"L (1575mm) Unit 13,765 Btu/h Minimum 78"L (1981mm) Unit

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Example Performance Calculations

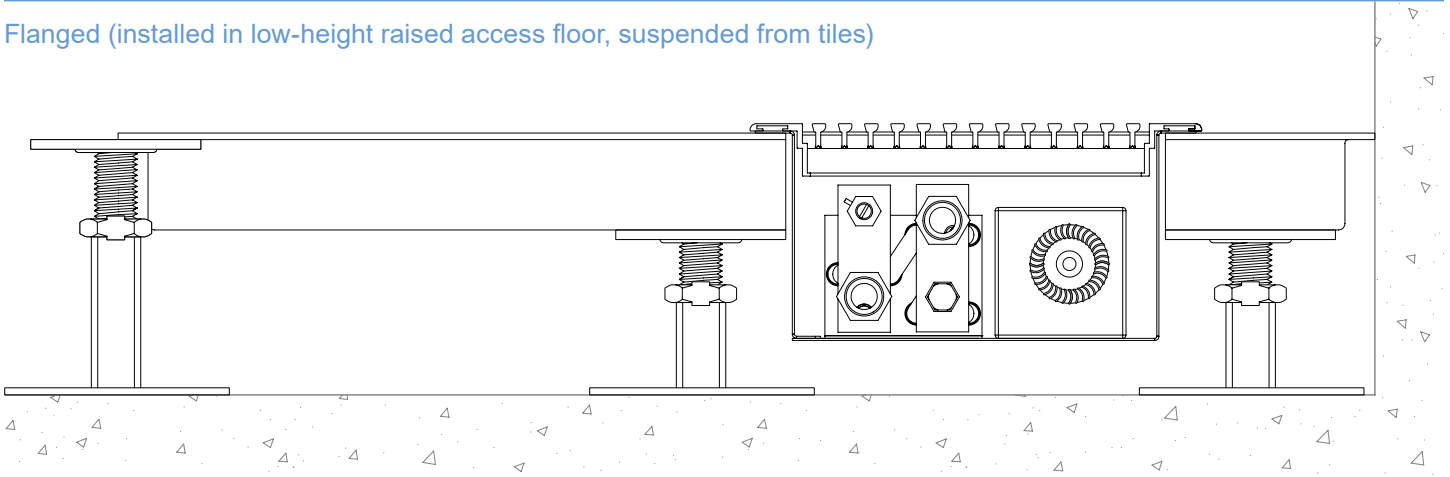
DESIGN CONDITIONS (INPUTS)					
Item/Description		SoHo-w-sp 33" 2-Pipe Heating	SoHo-w-sp 48" 2-Pipe Heating	SoHo-w-sp 62" 2-Pipe Heating	SoHo-w-sp 78" 2-Pipe Heating
Entering db	°F	68	68	68	68
Entering wb	°F	51.5	51.5	51.5	51.5
Air Flow	cfm	50 (Std.)	105 (Std.)	145 (Std.)	185 (Std.)
Altitude	ft	0	0	0	0
Absolute Pressure	psi	-	-	-	-
Air Flow Orientation		Normal	Normal	Normal	Normal
Fluid Name		Water	Water	Water	Water
Fluid State		Liquid	Liquid	Liquid	Liquid
Percent Glycol		-	-	-	-
Inlet Tube Pressure	psi	-	-	-	-
Entering Fluid Temperature	°F	170	170	170	170
Tube Side Flow Rate (Mass)	lbm/min	2.6	5.93	8.61	11.45
Tube Side Flow Rate (Volume)	gal/min	0.32	0.73	1.06	1.41
Flow Pattern		Counter	Counter	Counter	Counter
Tube Side Fouling Factor		0	0	0	0
CONSTRUCTION (INPUTS)					
Coil Code		13	13	13	13
Locale		0 - Grenada	0 - Grenada	0 - Grenada	0 - Grenada
Tube O.D.	in	3/8	3/8	3/8	3/8
Tube Pattern	in	1.000 x 0.750	1.000 x 0.750	1.000 x 0.750	1.000 x 0.750
Fin Style		Corrugated	Corrugated	Corrugated	Corrugated
Fin Spacing	/in	8	8	8	8
Rows		3	3	3	3
Fin Height	in	3	3	3	3
Finned Length	in	15	30	44	60
Coils in Bank		1	1	1	1
Fin Material	in	0.0060 Aluminum	0.0060 Aluminum	0.0060 Aluminum	0.0060 Aluminum
Tube Wall	in	0.016	0.016	0.016	0.016
Tube Insert		None	None	None	None
Fin Coating		None	None	None	None
Header O.D.	in	1	1	1	1
Connection O.D.	in	3/4	3/4	3/4	3/4
Header Length	in	2.25	2.25	2.25	2
Circuits		2	2	2	2
Quantity of Tubes Used		8	8	8	8
CALCULATIONS					
Model		3FZ0803R-3.00x15.00	3FZ0803R-3.00x30.00	3FZ0803R-3.00x44.00	3FZ0803R-3.00x60.00
Total Capacity	Btu/hr	3,104.77	7,113.54	10,359.95	13,764.99
Sensible Capacity	Btu/hr	3,104.77	7,113.54	10,359.95	13,764.99
Leaving db	°F	125	130.2	133.6	136.3
Leaving wb	°F	70.9	72.3	73.2	73.9
Leaving Fluid Temperature	°F	150.1	150	150	150
Tube Side dT	Δ°F	<20.0>	<20.0>	<20.0>	<20.0>
Face Velocity	ft/min	160	168	158.2	148
Air Pressure Drop	in wg	0.024	0.026	0.024	0.022
Tube Side pd	ft H ₂ O	0.08	0.52	1.24	2.5
Tube Side Velocity	ft/s	0.5	1.2	1.7	2.2
Reynolds Number		3,478	7,926	11,502	15,296
Quantity of Tubes Dropped		1	1	1	1

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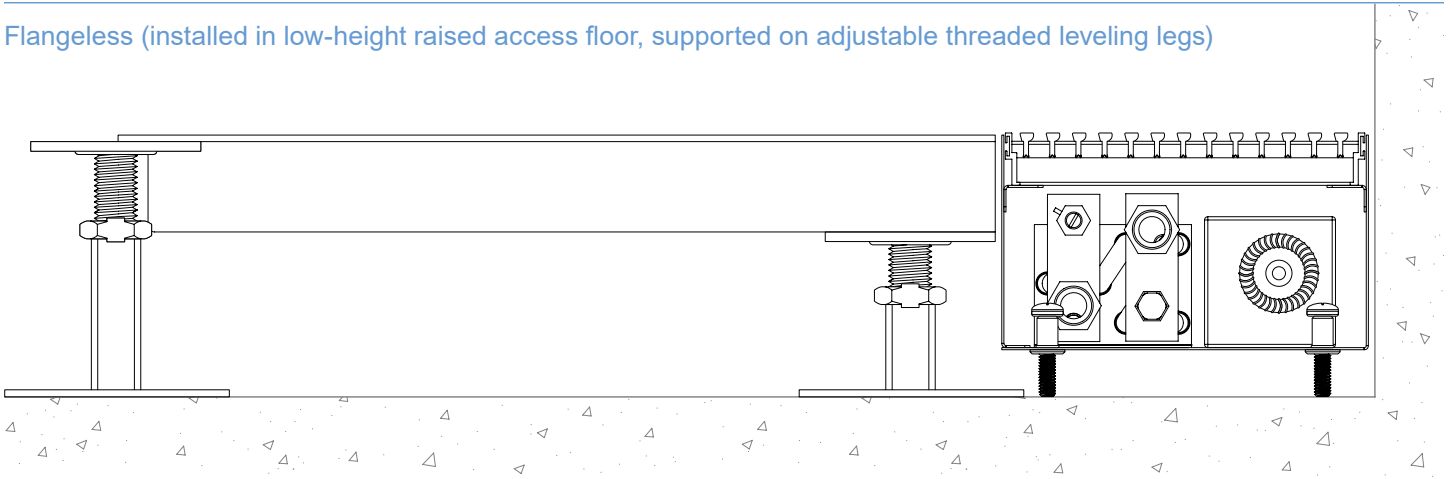
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Installation Options

Flanged (installed in low-height raised access floor, suspended from tiles)



Flangeless (installed in low-height raised access floor, supported on adjustable threaded leveling legs)

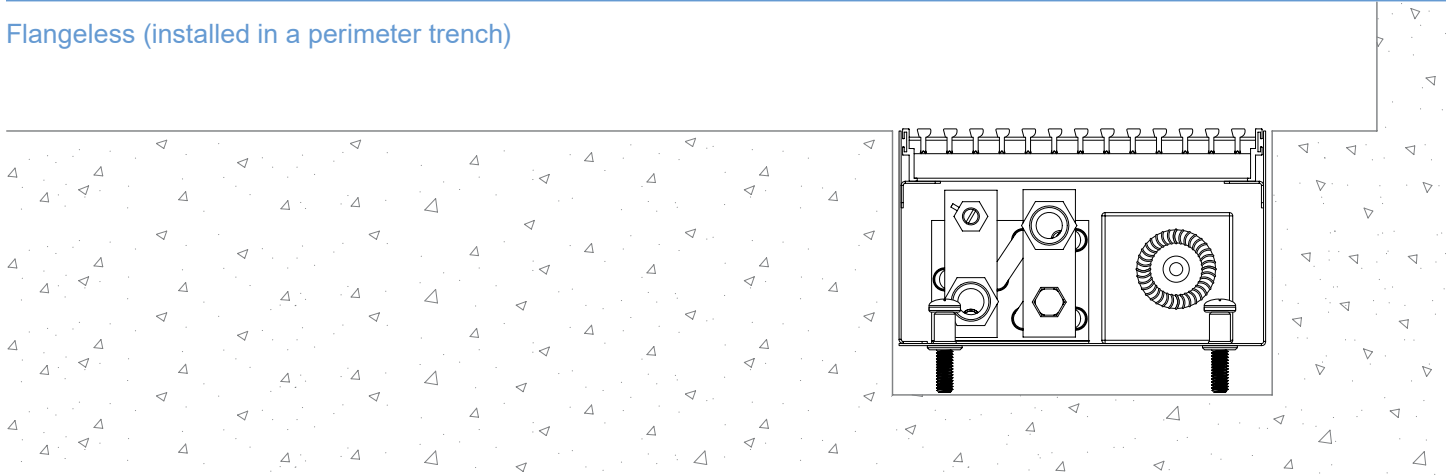


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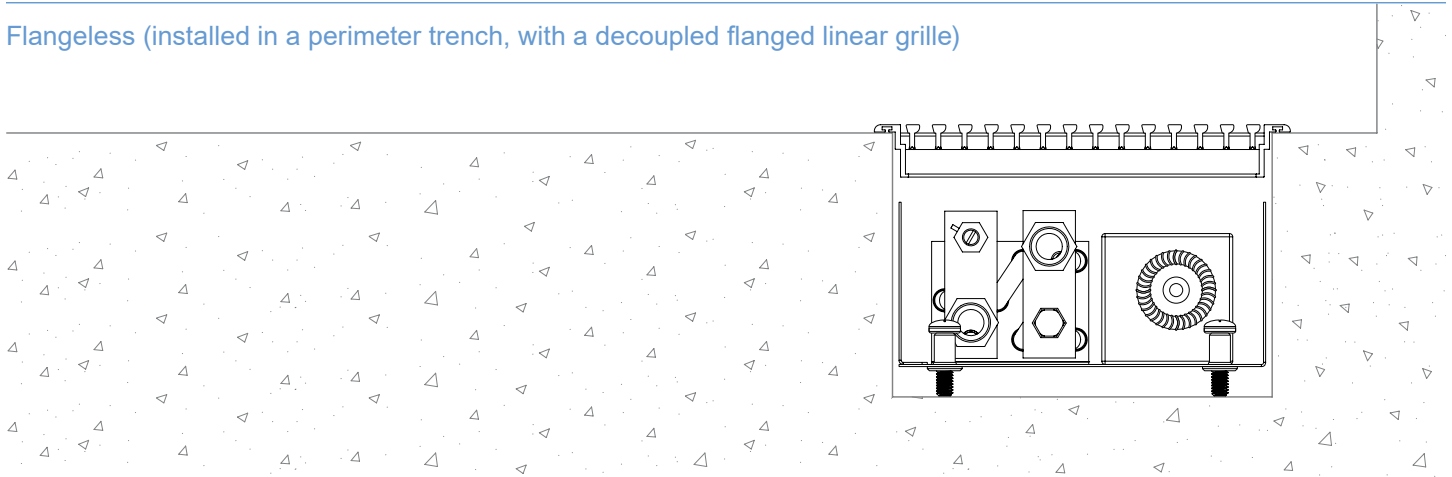
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Installation Options (continued)

Flangeless (installed in a perimeter trench)



Flangeless (installed in a perimeter trench, with a decoupled flanged linear grille)

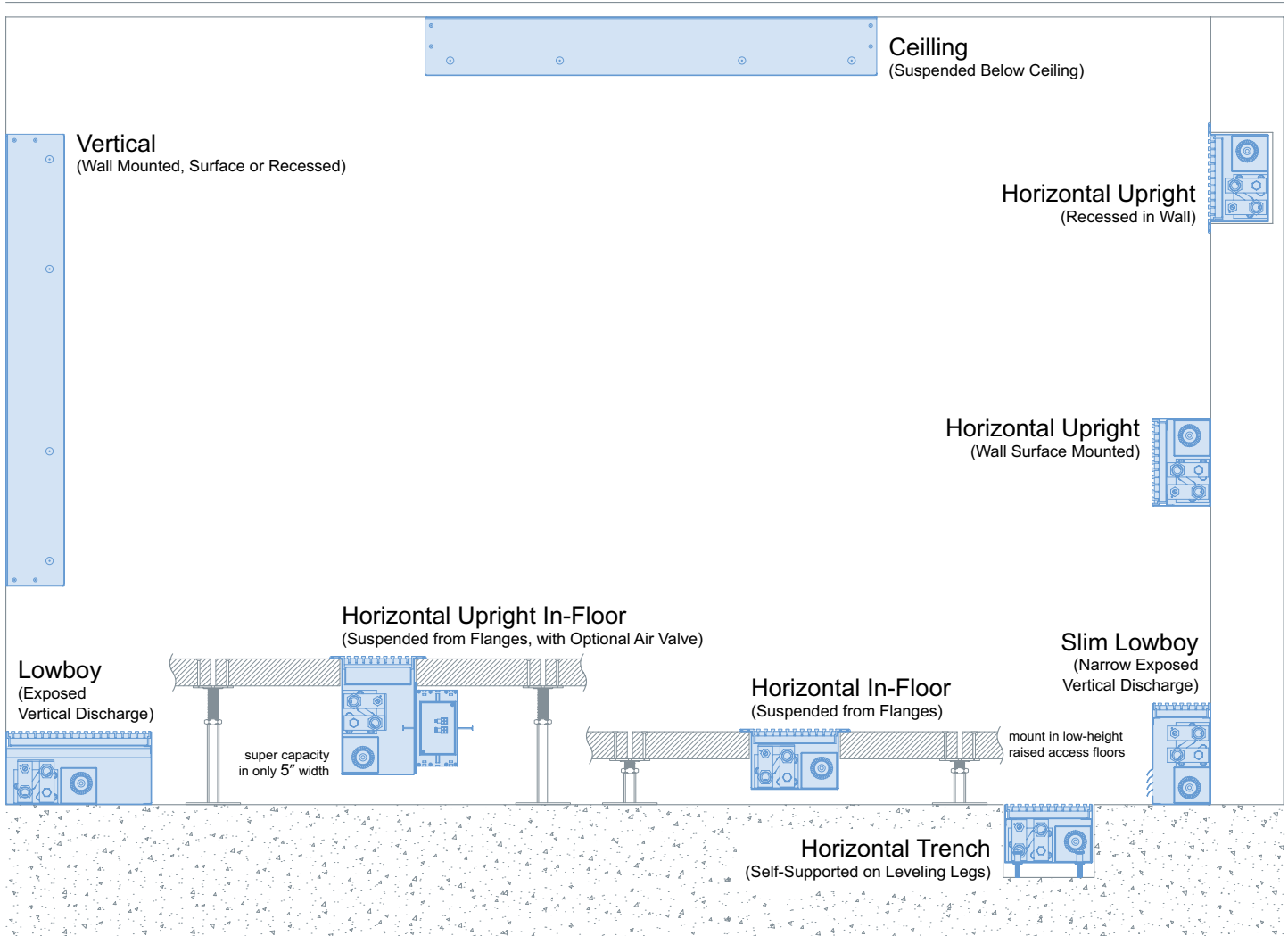


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Installation Options (continued)

Example Mounting Options



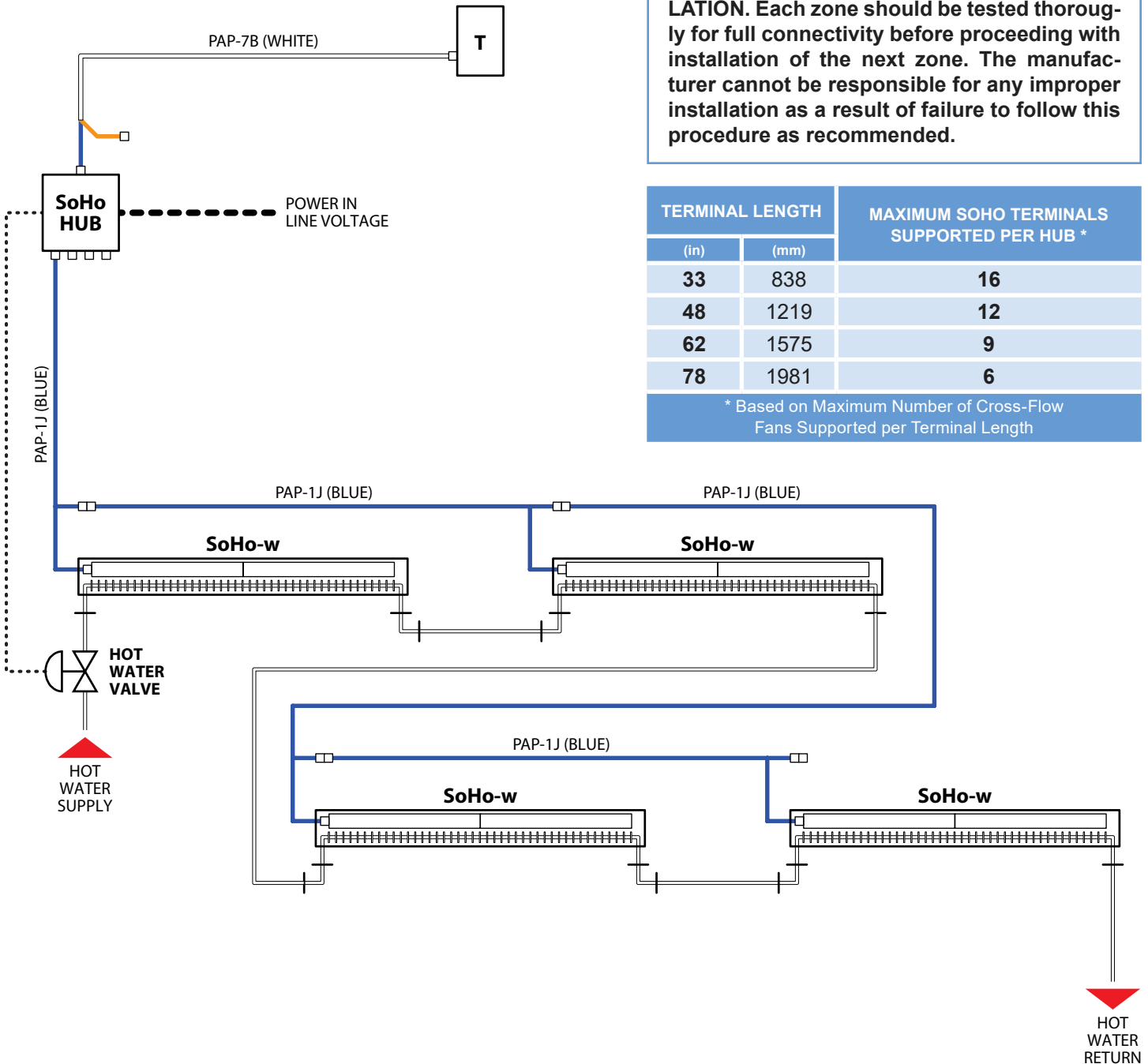
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Example Zone



IMPORTANT: It is **HIGHLY RECOMMENDED** by the manufacturer that each zone be checked for faulty or improper wiring **DURING INSTALLATION**. Each zone should be tested thoroughly for full connectivity before proceeding with installation of the next zone. The manufacturer cannot be responsible for any improper installation as a result of failure to follow this procedure as recommended.



TERMINAL LENGTH		MAXIMUM SOHO TERMINALS SUPPORTED PER HUB *
(in)	(mm)	
33	838	16
48	1219	12
62	1575	9
78	1981	6

* Based on Maximum Number of Cross-Flow Fans Supported per Terminal Length

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SoHo-w - 07 - 033 - 04 - 00 - SP - 3R - 1

PRODUCT DESCRIPTION
SoHo water heating fan terminal

TERMINAL WIDTH
07 = 7" (178mm)

TERMINAL LENGTH
033 = 33" (838mm)
048 = 48" (1219mm)
062 = 62" (1575mm)
078 = 78" (1981mm)

TERMINAL HEIGHT
04 = 4" (102mm)

TERMINAL FLANGE CONFIGURATION
00 = Fully Flangeless (No Flanges On Sides / Ends)
20 = Two (2) Flanges (Flanges On Sides Only)
3L = Three (3) Flanges (Flanges On Sides + Left End)
3R = Three (3) Flanges (Flanges On Sides + Right End)
40 = Four (4) Flanges (Flanges On All Sides + Ends)

NUMBER OF FANS
1 = One (1) Fan
1x Single Fan Assembly
Max 62 cfm (105 m³/hr)
2 = Two (2) Fans
1x Dual Fan Assembly
Max 125 cfm (213 m³/hr)
3 = Three (3) Fans
1x Triple Fan Assembly
Max 185 cfm (315 m³/hr)
4 = Four (4) Fans
2x Dual Fan Assemblies
Max 250 cfm (425 m³/hr)

HEATING OPTIONS
3R = Three (3) Row Hydronic Fin Pack
4R = Four (4) Row Hydronic Fin Pack
5R = Five (5) Row Hydronic Fin Pack

VOLTAGE
SP = Single Point External Power Connection