

## Specification Sheet

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

#### Description

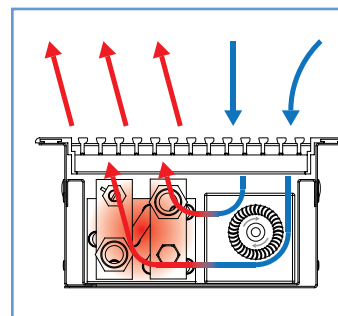
**SoHo-w Hydronic Fan-Powered Linear Terminal** is designed to create an efficient and simple solution to meet perimeter heating needs, in a variety of residential and commercial applications. The unit is ETL listed, fully certified to UL standards.

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 adjacent finish floor surface via support flanges, or it can be set directly on a floor (or subfloor) on threaded leveling legs, which provide up to 1" (25mm) of manual height adjustment.

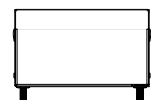
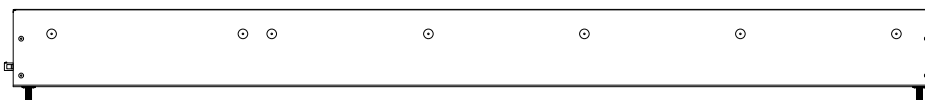
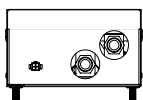
The hydronic fin pack has been rated in accordance with AHRI Standard 410; rows are 3/8"Ø (9.5mm) copper tubing with standard 1/2" Male NPT (15mm) supply and return connections. Finned length and heating capacity are dependant on overall terminal length and scheduled performance requirements (specify on order).

Heat is actively circulated using air flow supplied by 24VDC variable speed ECM cross-flow fans; configuration and maximum capacity is dependant on overall length of the terminal / fin pack. Primary power and controls are housed externally in a SoHo Hub control box (available separately); signals are transmitted via plug and play moxex connection.

The linear grille is available as extruded aluminum or stainless steel, in a variety of sizes and configurations (specify on order).



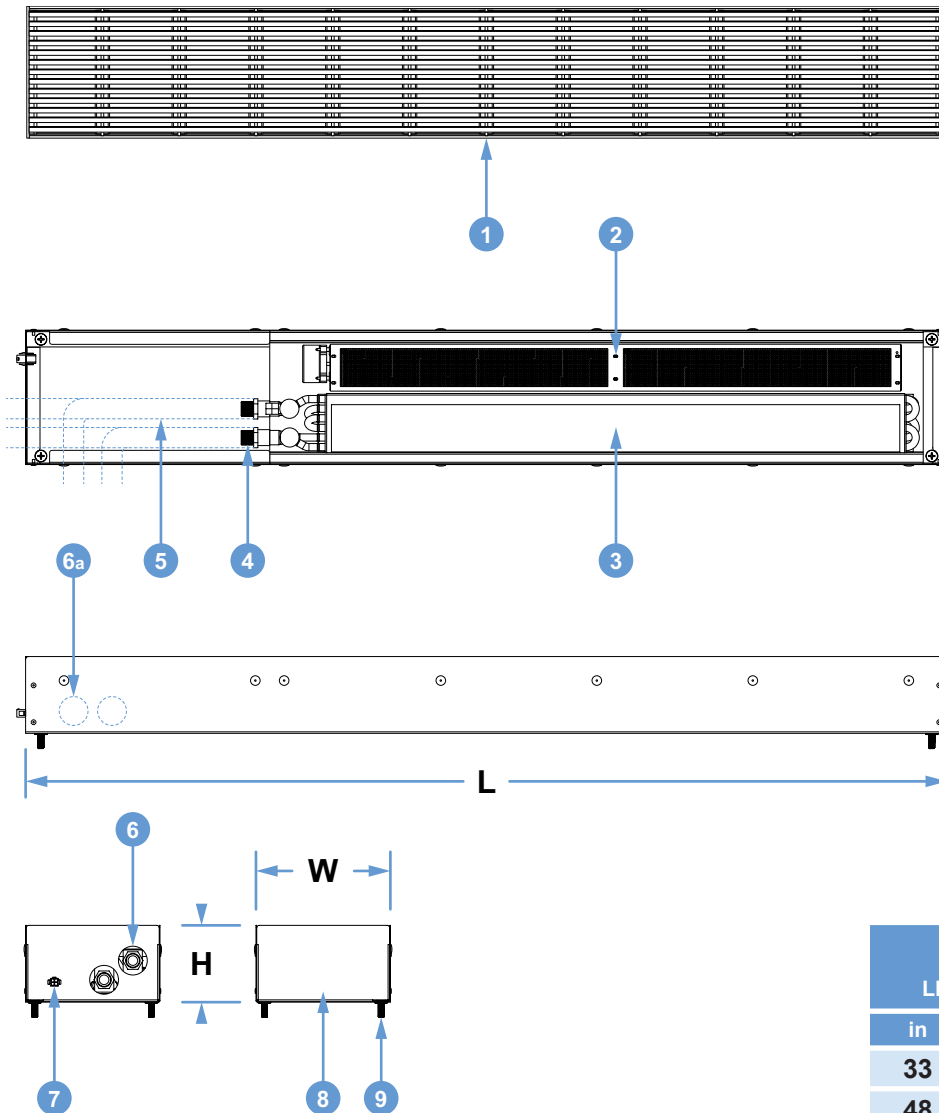
SoHo fan-powered linear terminals utilize cross-flow fans to recirculate and condition air within an occupied space.



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#### Unit Detail



1. Linear grille (multiple options for material, finish and flange configuration; specify on order)
2. 24VDC ECM cross-flow fans with finger guards
3. Hydronic heating fin pack
4. 1/2" Male NPT (15mm) supply / return water connections
5. Piping connections (furnished / installed by others)
6. Piping connection access
- 6a. Alternate piping connection access (specify on order)
7. Plug and play power / control cable moxex connection
8. 20 gauge (1mm) galvanized steel casing, pre-painted black
9. Adjustable 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 linear grille options available (specify on order)
  - Extruded aluminum / stainless steel (304 / 316 Series)
  - Flanged or flangeless configurations
  - Natural aluminum finish options or ten (10) standard powder-coated colors; additional colors and finishes available at architect's choice
- Optional threaded leveling legs for unit height adjustment
  - 1" (25mm) maximum manual height adjustment
- Single-point modular plug and play power and control moxex connection
- Hydronic fin pack (performance rated in accordance with AHRI Standard 410)
  - Variable finned length (based on terminal length and scheduled performance requirements)
  - 3/8"Ø (9.5mm) copper rows
  - 1/2" Male NPT (15mm) supply / return connections
  - Options for same side or opposite end connections, with side or front piping access (specify on order)
- 24VDC variable speed ECM cross-flow fans (capacity and configuration based on terminal length and scheduled performance requirements)
- ETL listed, fully certified in accordance with UL standards, including [UL 1995:2011 Ed.4]

#### Specifications

<b>Application:</b>	Low Profile Fan-Powered Heating   Raised Access Floors / Recessed Perimeter Trenches
<b>Terminal Construction:</b>	Galvanized Steel   20 Gauge (1mm)   Pre-Painted Black
<b>Terminal Dimensions:</b> 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)
<b>Air Flow Capacity:</b> (Nominal Maximum)	One (1) Fan (1x Single Assembly)   62 cfm (105 m <sup>3</sup> /hr)   Minimum 33"L (838mm) Unit Two (2) Fans (1x Dual Assembly)   125 cfm (213 m <sup>3</sup> /hr)   Minimum 48"L (1219mm) Unit Three (3) Fans (1x Triple Assembly)   185 cfm (315 m <sup>3</sup> /hr)   Minimum 62"L (1575mm) Unit Four (4) Fans (2x Dual Assembly)   250 cfm (425 m <sup>3</sup> /hr)   Minimum 78"L (1981mm) Unit
<b>Heating Capacity:</b> (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
<b>Grille Configuration:</b>	Extruded Aluminum   Natural Anodized / Powder-Coated Finish Fully Flanged / Partially Flanged / Fully Flangeless  Stainless Steel   304 / 316 Series Finish Fully Framed / Fully Frameless  Specify Grille Configuration Options On Order

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#### Example Performance Calculations

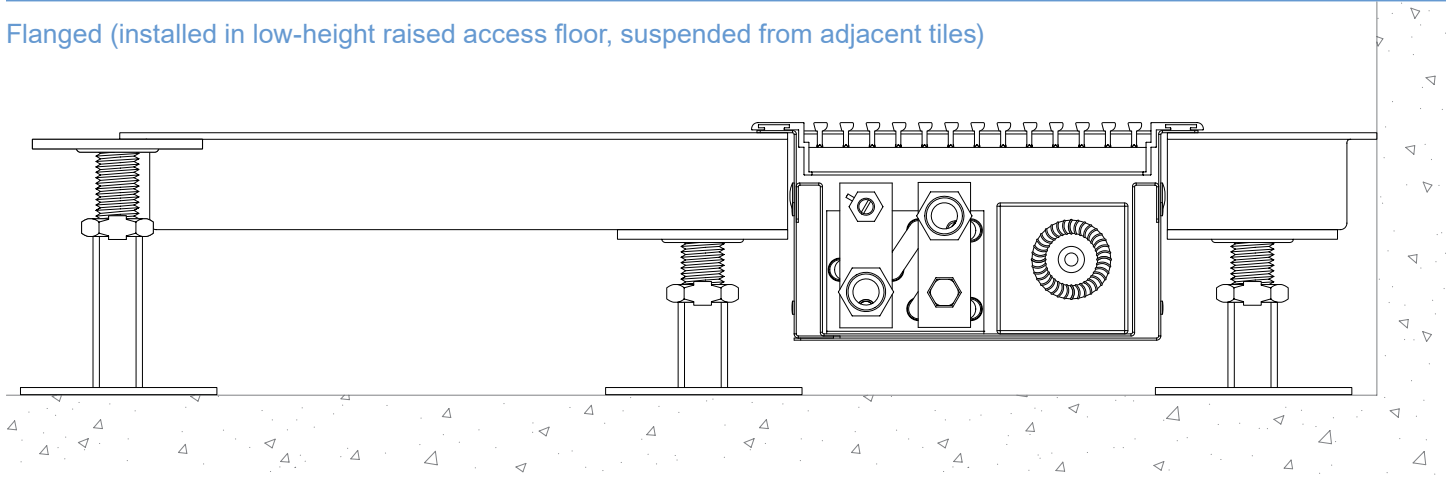
DESIGN CONDITIONS (INPUTS)					
Item/Description		SoHo-w-sp   33"   2-Pipe Heating	SoHo-w-sp   48"   2-Pipe Heating	SoHo-w-sp   62"   2-Pipe Heating	SoHo-w-sp   78"   2-Pipe Heating
Entering db	°F	68	68	68	68
Entering wb	°F	51.5	51.5	51.5	51.5
Air Flow	cfm	50 (Std.)	105 (Std.)	145 (Std.)	185 (Std.)
Altitude	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
Tubeside Flow Rate (Mass)	lbm/min	2.6	5.93	8.61	11.45
Tubeside Flow Rate (Volume)	gal/min	0.32	0.73	1.06	1.41
Flow Pattern		Counter	Counter	Counter	Counter
Tubeside 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
Tubeside 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
Tubeside pd	ft H2O	0.08	0.52	1.24	2.5
Tubeside 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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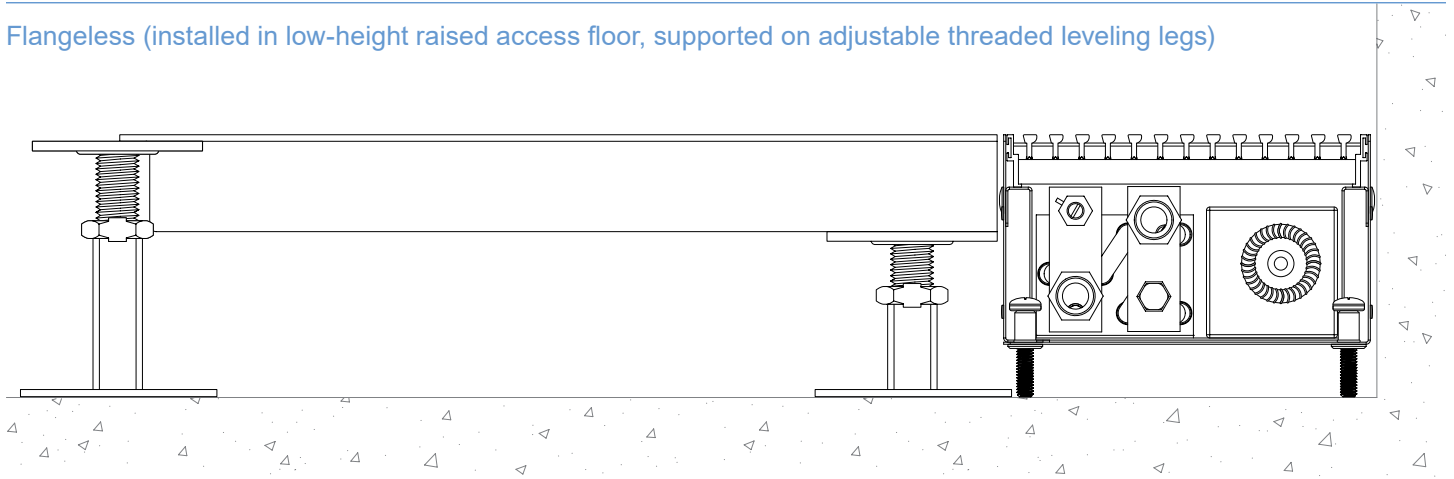
### **SoHo-w** Hydronic Fan-Powered Linear Terminal (Low Profile Heating)

#### Installation Options

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



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

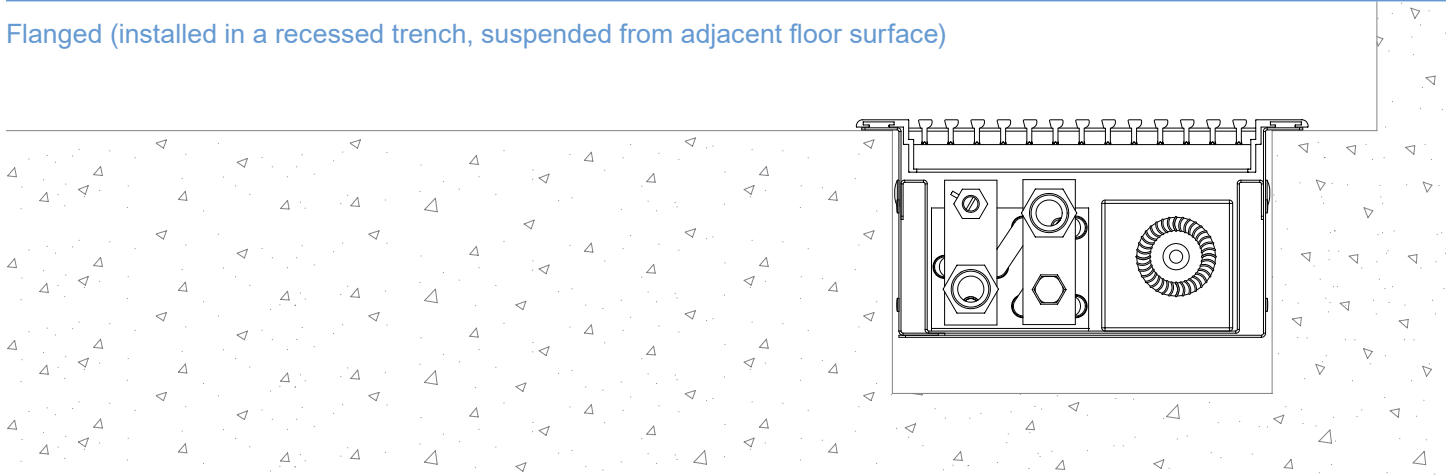


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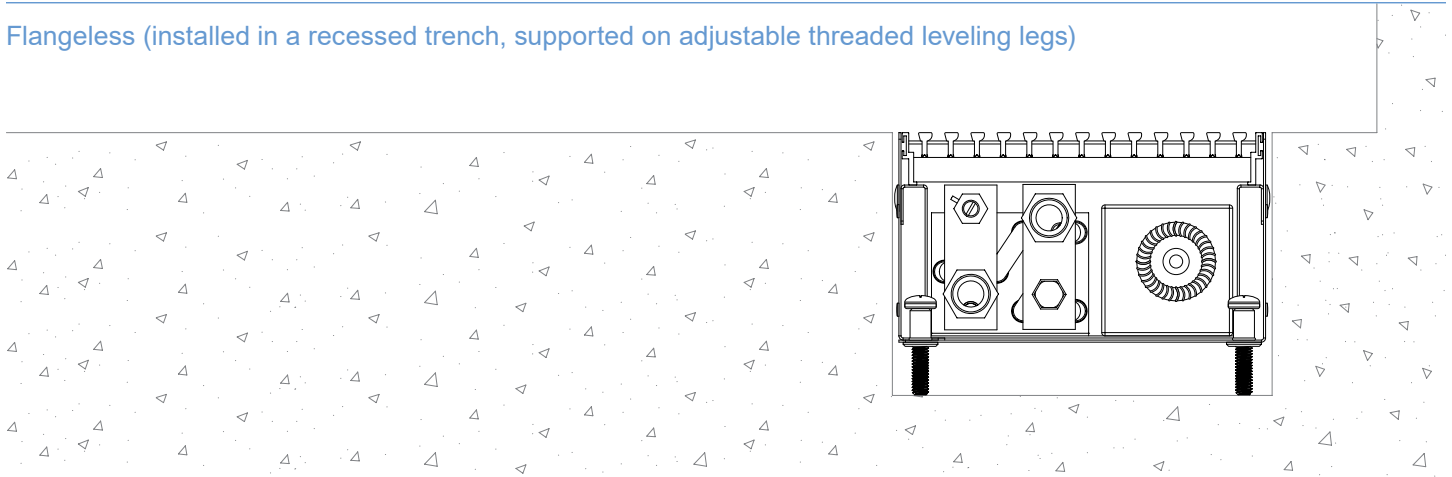
### **SoHo-w** Hydronic Fan-Powered Linear Terminal (Low Profile Heating)

#### Installation Options (continued)

Flanged (installed in a recessed trench, suspended from adjacent floor surface)



Flangeless (installed in a recessed trench, supported on adjustable threaded leveling legs)

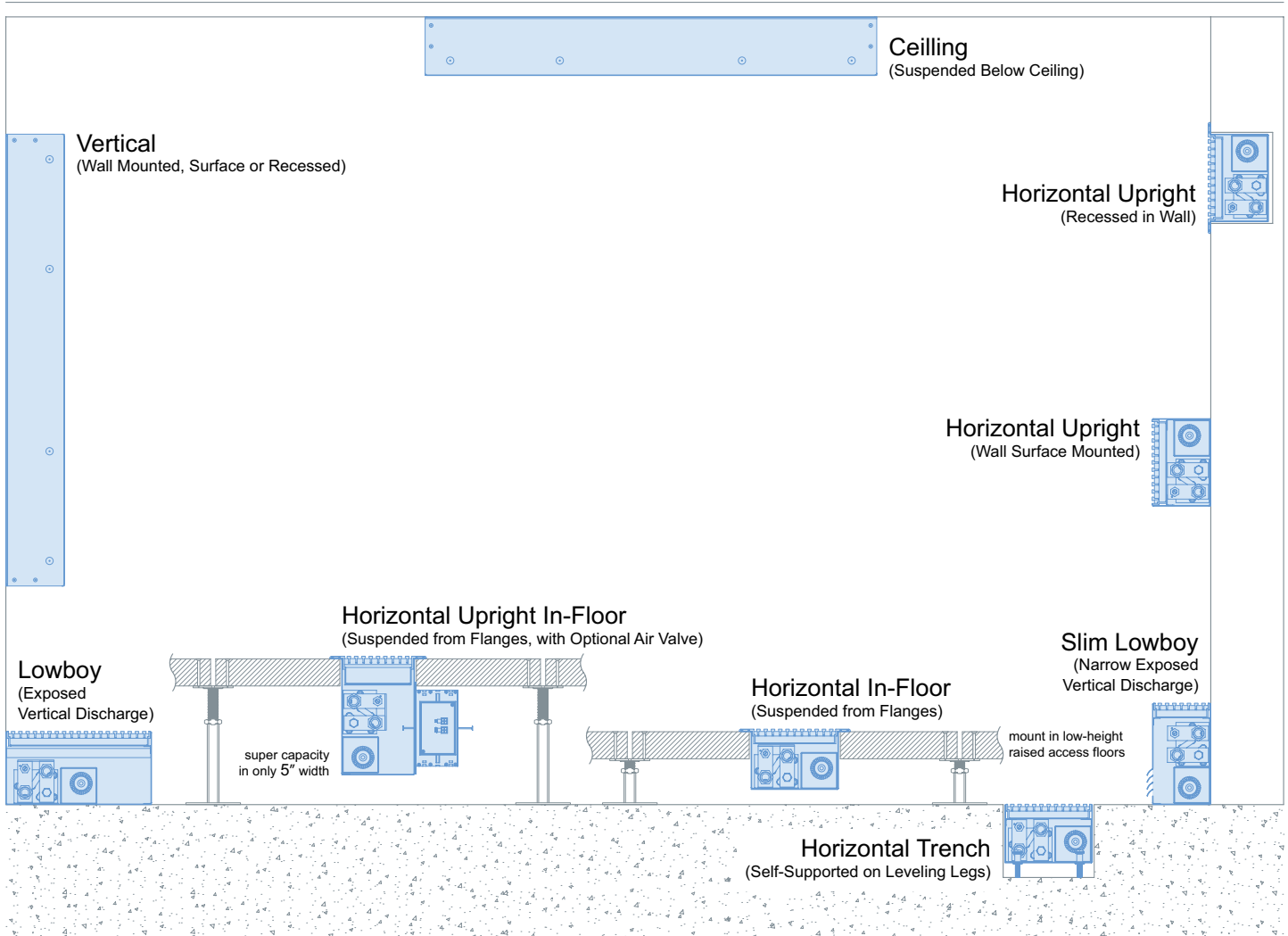


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### SoHo-w Hydronic Fan-Powered Linear Terminal (Low Profile Heating)

#### Installation Options (continued)

#### Example Mounting Options



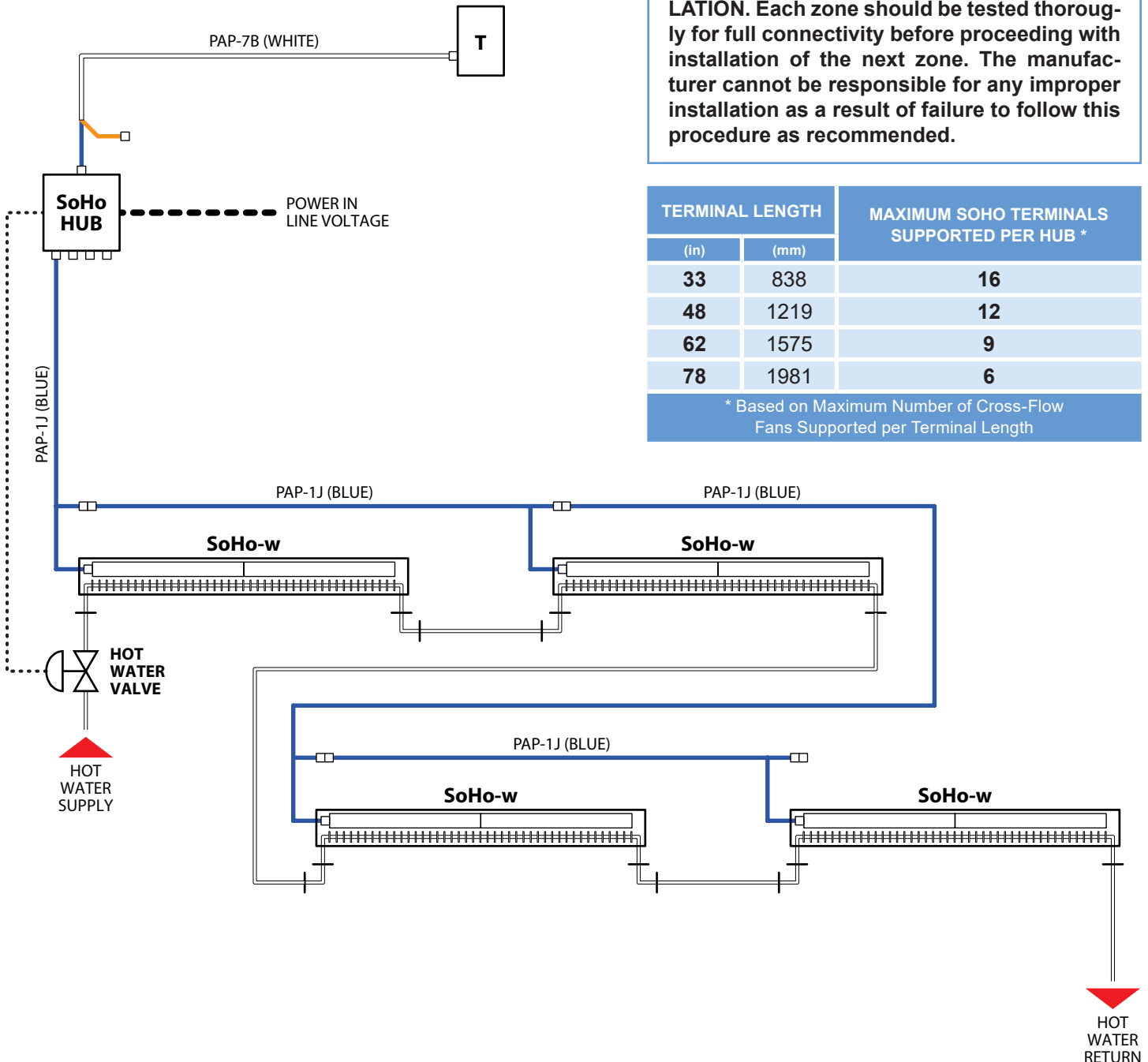
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#### Example Zone



**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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