

## Underfloor Fan Terminal Unit (Electric Heating)

**MODEL: UFE**

### DESCRIPTION:

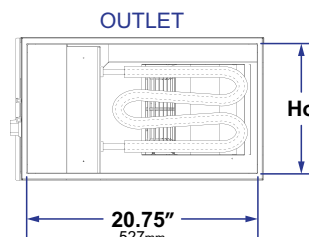
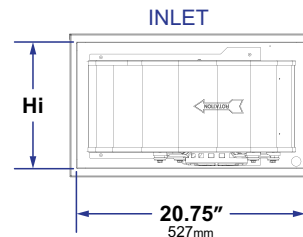
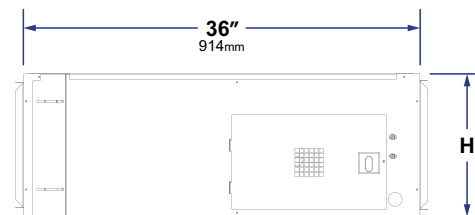
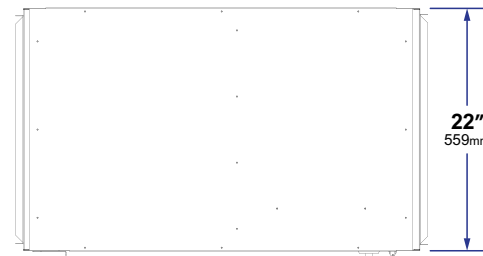
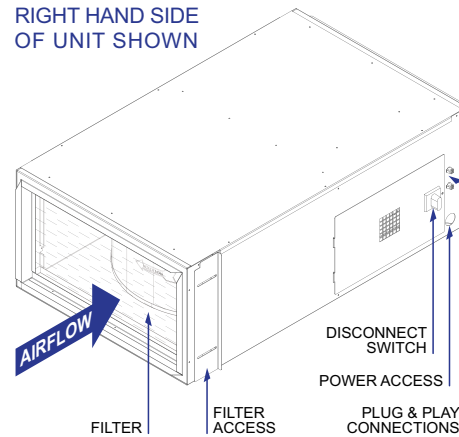
**UFE (Underfloor Fan Electric)** is an under floor heating fan terminal unit. The casing features 20 gauge (1mm) galvanized steel construction, pre-painted black.

The sheathed-type electric heater is available in various sizes, up to 9.0kW output. A single-point electrical power connection and unit-mounted disconnect are included.

Each unit includes an integrated transformer for 24VAC power, which will power other devices up to a 40VA limit (100VA optional; specify on order). Modular moxex cable connections allow plug & play zone installation. One (1) PAP-5 and one (1) PAP-6 Plug & Play Cable are included.

### FEATURES:

- 20 Gauge (1mm) galvanized steel casing, pre-painted black
- Removable fan access panel
- Interlocking disconnect switch on controls access panel
- High efficiency variable speed ECM motor with thermal overload protection (optional direct drive constant speed PSC motor; specify on order)
- Single-point power connection
- 40VA control transformer (100VA optional)
- “Dark Heat” finned stainless-steel heating elements
- Main supply fusing
- Solid state heating contactors
- Redundant high-temperature overload protection
- 1" (25mm) replaceable T/A filter
- Sides lined with 1" (25mm) dual density insulation
- Insulation meets fungi resistance test standards ASTM C-1071 & ASTM G21
- Insulation meets NFPA 90A, UL181
- Insulation has “A” fire classification of 25/50 per ASTM E-84 & UL723
- Insulation meets bacteriological test standards ASTM C-665 & ASTN G22
- ETL listed, fully certified to UL standards
- Meets all NEC requirements
- Includes NEMA-1 enclosure



ALL DIMENSIONS  
NOMINAL +/- 0.1" (2.5mm)

	in	8	10	13	15
		mm	203	254	330
H	in	6.5	8.5	11.5	13.5
	mm	165	216	292	343
Hi	in	6.5	8.5	11.5	13.5
	mm	165	216	292	343
Ho	in	6.5	8.5	11.5	13.5
	mm	165	216	292	343



# Underfloor Fan Terminal Unit (Electric Heating)

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**ELECTRICAL PERFORMANCE:**

PRODUCT DESCRIPTION		PRIMARY VOLTAGE / PH		MODULATED HEAT RANGE (KW)			HEATER AMPS	MOTOR VOLTAGE	MCA	MOP	TEMP. RISE *	
UFE	12	000	120	1	0.0	–	0.0	0	120	9.6	15	0°
		015	120	1	0.8	–	1.5	12.5	120	25.3	30	8°
		030	120	1	1.5	–	3.0	25	120	40.9	45	16°
UFE	20	000	208	1	0.0	–	0.0	0	120	9.6	15	0°
		015	208	1	0.8	–	1.5	7.2	120	18.6	20	8°
		030	208	1	1.5	–	3.0	14.4	120	27.6	30	16°
		045	208	1	2.3	–	4.5	21.6	120	36.6	40	24°
		060	208	1	3.0	–	6.0	28.8	120	45.6	50	32°
UFE	23	000	208	3	0.0	–	0.0	0	120	9.6	15	0°
		015	208	3	0.8	–	1.5	4	120	14.6	15	8°
		030	208	3	1.5	–	3.0	8	120	19.6	20	16°
		045	208	3	2.3	–	4.5	12	120	24.6	25	24°
		060	208	3	3.0	–	6.0	16	120	29.6	30	32°
		090	208	3	4.5	–	9.0	24	120	39.6	40	47°
UFE	24	000	240	1	0.0	–	0.0	0	240	5.4	15	0°
		015	240	1	0.8	–	1.5	6.3	240	13.3	15	8°
		030	240	1	1.5	–	3.0	12.5	240	21	25	16°
		045	240	1	2.3	–	4.5	18.8	240	28.9	30	24°
		060	240	1	3.0	–	6.0	25	240	36.6	40	32°
UFE	27	000	277	1	0.0	–	0.0	0	277	5.1	15	0°
		015	277	1	0.8	–	1.5	5.4	277	11.9	15	8°
		030	277	1	1.5	–	3.0	10.8	277	18.6	20	16°
		045	277	1	2.3	–	4.5	16.2	277	25.4	30	24°
		060	277	1	3.0	–	6.0	21.6	277	32.1	35	32°
UFE	48	000	480	3	0.0	–	0.0	0	277	5.1	15	0°
		015	480	3	0.8	–	1.5	1.8	277	7.4	15	8°
		030	480	3	1.5	–	3.0	3.6	277	9.6	15	16°
		045	480	3	2.3	–	4.5	5.4	277	11.9	15	24°
		060	480	3	3.0	–	6.0	7.2	277	14.1	15	32°
		090	480	3	4.5	–	9.0	10.8	277	18.6	20	47°

\* Listed temperature rise values are based on 600 cfm (1020 m³/hr) air flow. Adjust temperature rise accordingly based on air flow.



# Underfloor Fan Terminal Unit (Electric Heating)

MODEL: **UFE**

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## ELECTRICAL PERFORMANCE (CONTINUED):

1. 120V (120/1/60) | 277V (277/1/60)
  - Single Phase units require 3 conductors: Line / Neutral / Ground
2. 240V (240/1/60)
  - Single Phase 240V requires 3 conductors: Line1 / Line2 / Ground
3. 208V (208/1/60)
  - Single Phase 208V requires 4 conductors: Line1 / Line2 / Neutral / Ground
4. 208V (208/3/60) | 480V (480/3/60)
  - 3-Phase units require 5 conductors: Line1 / Line2 / Line3 / Neutral / Ground

Additional Voltages / 50Hz capabilities available on request.

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## SEQUENCE OF OPERATION:

Heating sequence will begin with a call for heating from the thermostat.

For electric heating units, heat level is varied by pulse modulation the solid state relays based on heating demand. The time modulation period is 10 seconds and the effective heat level is the percentage of time the heater element is on during that period. Generally, there are three heat levels: 50%, 80% and 100%.

When heat demand has been satisfied and the thermostat has released its call for heat, the fan will continue to run at least 30 seconds to cool down the heating elements. For large heat capacity units, the fan will continue to run until an internal sensor detects the heating elements have cooled down sufficiently.

Standard fan units work in heating only. For fan units configured to operate in cooling mode, a call for cooling from the thermostat will signal the fan to run. Fan units equipped with EC motors will vary the fan speed based on cooling demand. AC motors will run at a single speed.

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## SPECIFICATIONS:

<b>Application:</b>	Underfloor Electric Heating   Raised Access Floors 10"–17" (254mm–432mm) +
<b>Dimensions:</b>	36" x 22" x 8" (914mm x 559mm x 203mm)
<b>LxWxH (Nominal)</b>	36" x 22" x 10" (914mm x 559mm x 254mm)
	36" x 22" x 13" (914mm x 559mm x 330mm)
	36" x 22" x 15" (914mm x 559mm x 381mm)
<b>Construction:</b>	Galvanized Steel   20 Gauge (1mm)   Pre-Painted Black
<b>Supply Press. / Temp.:</b>	0.02–0.1 in. w.c. (5–25 Pa)   40–120°F (4–49°C)
<b>Air Flow Capacity:</b>	150–1800 cfm @ 0.05 in. w.c. (255–3060 m <sup>3</sup> /hr @ 12.5 Pa)
<b>(Nominal)</b>	



# Underfloor Fan Terminal Unit (Electric Heating)

MODEL: **UFE**

**UFE - 08 - 1 - EC - 12 - 015**

**PRODUCT DESCRIPTION**  
**U**nderfloor  
**F**an  
**E**lectric Heating

**HEATING OPTIONS**  
**015** = 1.5 kW  
**030** = 3.0 kW  
**045** = 4.5 kW  
**060** = 6.0 kW  
**090** = 9.0 kW

**TERMINAL HEIGHT**  
**08** = 8" (203mm)  
**10** = 10" (254mm)  
**13** = 13" (330mm)  
**15** = 15" (381mm)

**VOLTAGE**  
**12** = 120V (120/1/60)  
**20** = 208V (280/1/60)  
**23** = 208V (280/3/60)  
**24** = 240V (240/1/60)  
**27** = 277V (277/1/60)  
**48** = 480V (480/3/60)

**AIR FLOW**  
**1** = 150 cfm (255 m<sup>3</sup>/hr)  
**2** = 300 cfm (510 m<sup>3</sup>/hr)  
**3** = 600 cfm (1020 m<sup>3</sup>/hr)  
**4** = 900 cfm (1530 m<sup>3</sup>/hr)  
**5** = 1200 cfm (2040 m<sup>3</sup>/hr)  
**6** = 1500 cfm (2550 m<sup>3</sup>/hr)  
**7** = 1800 cfm (3060 m<sup>3</sup>/hr)

**MOTOR SPEED CONTROL**  
**EC** = Variable Speed  
**AC** = Single Speed