



Specification Sheet

UFE Underfloor Fan Terminal Unit (Electric Heating)

Description

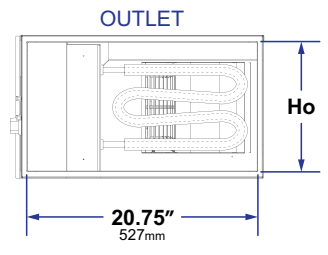
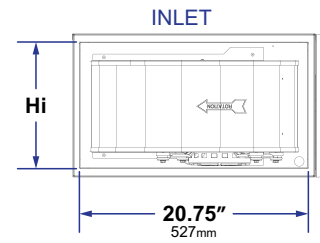
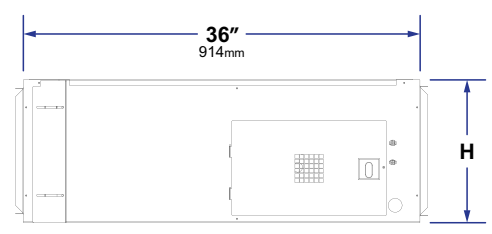
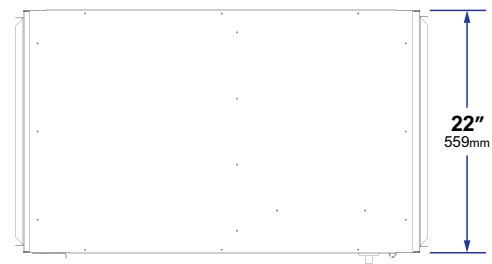
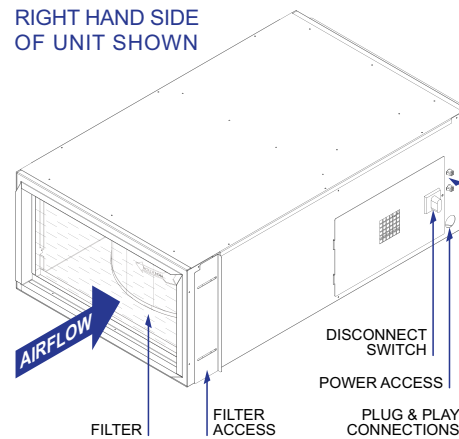
UFE (Underfloor Fan Electric) is an under floor heating fan terminal unit. The casing features 20 gauge (1mm) galvanized steel construction, pre-painted black.

The sheathed-type electric element is available in a range of heating capacities (up to 9.0kW), and includes redundant protection systems to prevent overheating. 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.

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
H	mm	203	254	330	381
Hi	in	6.4	8.4	11.4	13.4
	mm	163	213	290	343
Ho	in	6.8	8.8	11.8	13.8
	mm	173	224	299	351



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Electrical Performance

PRODUCT DESCRIPTION		PRIMARY VOLTAGE / PH		MODULATED HEAT RANGE			HEATER AMPS	MOTOR VOLTAGE	MCA	MOP	TEMP. RISE *	
UFE	12	000	120v	1PH	0.0kW	–	0.0kW	0A	120v	9.6A	15A	0°
		015	120v	1PH	0.8kW	–	1.5kW	12.5A	120v	25.3A	30A	8°
		030	120v	1PH	1.5kW	–	3.0kW	25.0A	120v	40.9A	45A	16°
UFE	20	000	208v	1PH	0.0kW	–	0.0kW	0A	120v	9.6A	15A	0°
		015	208v	1PH	0.8kW	–	1.5kW	7.2A	120v	18.6A	20A	8°
		030	208v	1PH	1.5kW	–	3.0kW	14.4A	120v	27.6A	30A	16°
		045	208v	1PH	2.3kW	–	4.5kW	21.6A	120v	36.6A	40A	24°
		060	208v	1PH	3.0kW	–	6.0kW	28.8A	120v	45.6A	50A	32°
UFE	23	000	208v	3PH	0.0kW	–	0.0kW	0A	120v	9.6A	15A	0°
		015	208v	3PH	0.8kW	–	1.5kW	4.0A	120v	14.6A	15A	8°
		030	208v	3PH	1.5kW	–	3.0kW	8.0A	120v	19.6A	20A	16°
		045	208v	3PH	2.3kW	–	4.5kW	12.0A	120v	24.6A	25A	24°
		060	208v	3PH	3.0kW	–	6.0kW	16.0A	120v	29.6A	30A	32°
		090	208v	3PH	4.5kW	–	9.0kW	24.0A	120v	39.6A	40A	47°
UFE	24	000	240v	1PH	0.0kW	–	0.0kW	0A	240v	5.4A	15A	0°
		015	240v	1PH	0.8kW	–	1.5kW	6.3A	240v	13.3A	15A	8°
		030	240v	1PH	1.5kW	–	3.0kW	12.5A	240v	21.0A	25A	16°
		045	240v	1PH	2.3kW	–	4.5kW	18.8A	240v	28.9A	30A	24°
		060	240v	1PH	3.0kW	–	6.0kW	25.0A	240v	36.6A	40A	32°
UFE	27	000	277v	1PH	0.0kW	–	0.0kW	0A	277v	5.1A	15A	0°
		015	277v	1PH	0.8kW	–	1.5kW	5.4A	277v	11.9A	15A	8°
		030	277v	1PH	1.5kW	–	3.0kW	10.8A	277v	18.6A	20A	16°
		045	277v	1PH	2.3kW	–	4.5kW	16.2A	277v	25.4A	30A	24°
		060	277v	1PH	3.0kW	–	6.0kW	21.6A	277v	32.1A	35A	32°
UFE	48	000	480v	3PH	0.0kW	–	0.0kW	0A	277v	5.1A	15A	0°
		015	480v	3PH	0.8kW	–	1.5kW	1.8A	277v	7.4A	15A	8°
		030	480v	3PH	1.5kW	–	3.0kW	3.6A	277v	9.6A	15A	16°
		045	480v	3PH	2.3kW	–	4.5kW	5.4A	277v	11.9A	15A	24°
		060	480v	3PH	3.0kW	–	6.0kW	7.2A	277v	14.1A	15A	32°
		090	480v	3PH	4.5kW	–	9.0kW	10.8A	277v	18.6A	20A	47°

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



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Electrical Performance

1. 120V (120/1/60) | 277V (277/1/60)
 - Single Phase 120V / 277V requires 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 208V / 480V requires 5 conductors: Line1 / Line2 / Line3 / Neutral / Ground

Additional custom Voltages / 50Hz capabilities available; specify on order.

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.

This sequence represents typical operation as recommended by the manufacturer; any project operational specification that requires a custom sequence must be specified prior to final order.



Specification Sheet

UFE Underfloor Fan Terminal Unit (Electric Heating)

Specifications

Application:	Underfloor Electric Heating Raised Access Floor Systems 10"–17" (254mm–432mm) +
Dimensions:	36" x 22" x 8" (914mm x 559mm x 203mm)
LxWxH (Nominal)	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)
Construction:	Galvanized Steel 20 Gauge (1mm) Pre-Painted Black
Supply Press. / Temp.:	0.02–0.1 in. w.c. (5–25 Pa) 40–120°F (4–49°C)
Air Flow Capacity:	300 cfm @ 0.05 in. w.c. (510 m ³ /hr @ 12.5 Pa) Minimum 8" (203mm) Casing Height
(Nominal Maximum)	1200 cfm @ 0.05 in. w.c. (2040 m ³ /hr @ 12.5 Pa) Minimum 13" (330mm) Casing Height
	1500 cfm @ 0.05 in. w.c. (2548 m ³ /hr @ 12.5 Pa) Minimum 15" (381mm) Casing Height

