

GLOBAL IFS[®]

Underfloor Air Distribution System

Perimeter Natural Convection Terminal (PNT)



SYSTEM OVERVIEW

The Perimeter Natural Convection Terminal (PNT) provides warm air by recirculating room air down through the integrated heating coil. Optional air valves allow cooling through the same terminal in pressurized raised access floor applications. Ideal for perimeter applications this compact design allows quick drop-in installation. The air valve design allows floor pedestals to be located anywhere and modulate within the plenum housing. These units are finished with a separately specified Linear Bar Grille (LBG), available in both flanged and flangeless styles.

Features

- Integrated heater options:
 - Hydronic Standard Capacity
 - Hydronic High Capacity
 - Electric
- Inset air valve design results in no interference with floor pedestals
- Multiple air valve sizes available for various cooling requirements – 100 - 800 CFM
- Steel plenum painted black
- Room side accessible damper actuator, multiple actuator options. (applies to all products with actuator)
- Plug-and-play daisy chain cables with multiple connection options for PSM

Energy Efficient Systems

Natural convection heating eliminates reheating and optimizes energy use.

Designing around this product can help eliminate fan boxes around the perimeter, potentially reducing energy usage and noise concerns while simplifying maintenance.

The PNT assembly is rigorously tested and validated in an underfloor application.

VAV inlet allows for two-stage heating with control sequences that comply with ASHRAE 90.1.

Modular Design

The PNT linear trough heaters are integral components of the Global IFS UFAD System. See Perimeter Zone p. 8 of this document for example applications and control solutions.

The drop-in plenum design and plug-and-play wiring allow for increased flexibility and ease of installation.

Both power and control signals delivered to each unit via a single daisy chained cable, with up to six units in series.

Flexibility in Design

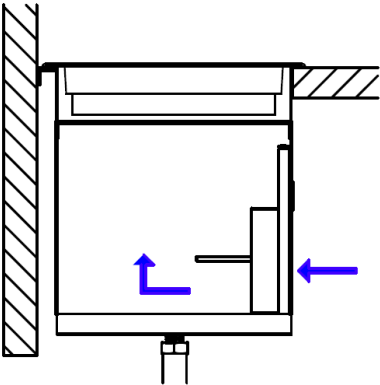
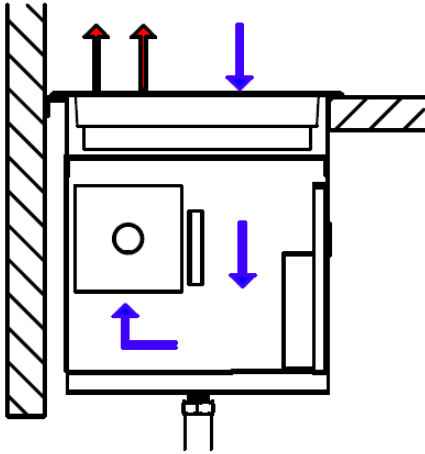
Hot water and electric coils available. Controls enclosure, water coils, and electric heaters are ETL certified.

Standard removable endcaps allow for both continuous and discrete installations in combination with the LBG floor grille and TBO blank-off plate.

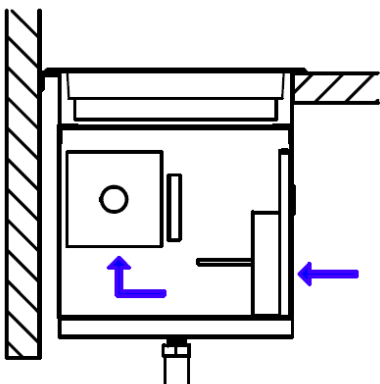
PRODUCT APPLICATION

The PNT is a perfect solution for perimeter heating either in a pressurized raised access floor or concrete trench. The addition of a VAV inlet allows for perimeter cooling and ventilation air to be supplied via the same terminal unit, saving space and cost. This VAV inlet can also be used for increased heating loads via two-stage heating control sequences. Linear floor heaters handle regular foot traffic and do not intrude on wall space, making them well suited for offices, lobbies, and even schools and universities with raised floor or trench systems along the perimeter.

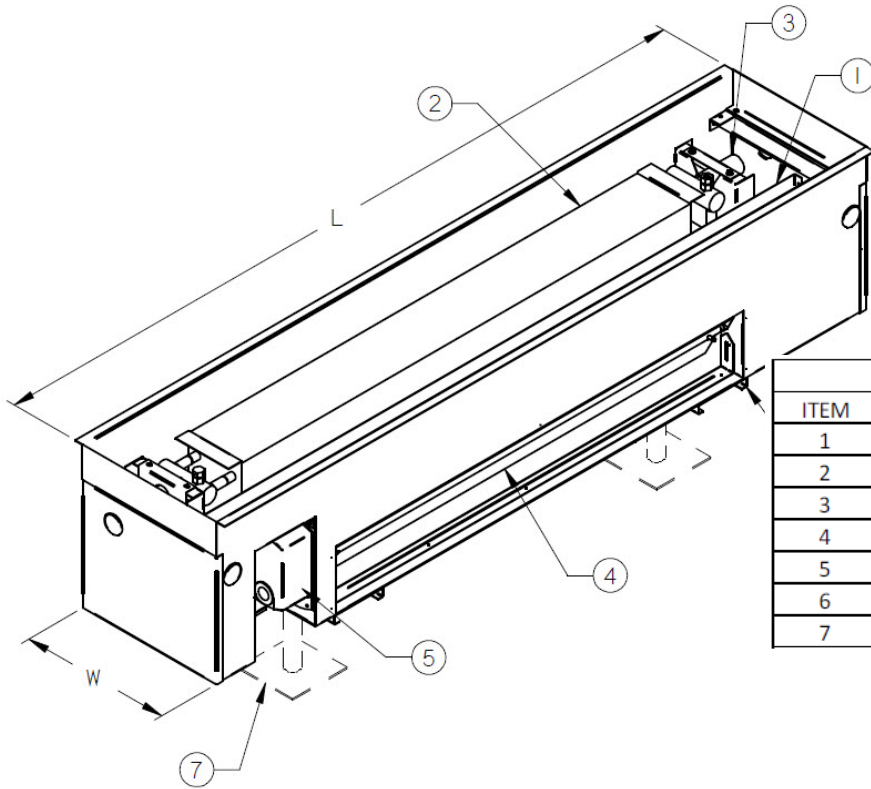
Heating Mode



Cooling Mode



DIMENSIONAL DATA



Parts List	
ITEM	PART NAME
1	BAFFLE DIVIDER
2	HOT WATER FIN PACK ELEMENT
3	1.125" COPPER CONNECTION
4	MOTORIZED VAV DAMPER (OPT)
5	24V ACTUATOR (OPT)
6	PEDESTAL SUPPORT BRACKET (OPT. for 1000 STYLE PLENUM)
7	PEDESTALS (OPT., ORDERED SEPARATELY)

Flanged Plenum

Nominal Size (L x W x H)	Actual Dimensions		Pedestal Bracket Qty (Opt.)
	Length	Width	
48" x 10" x 9"	47.875" (1216mm)	9.875" (251mm)	2
72" x 10" x 9"	71.875" (1826mm)	9.875" (251mm)	3
96" x 10" x 9"	95.875" (2435mm)	9.875" (251mm)	4

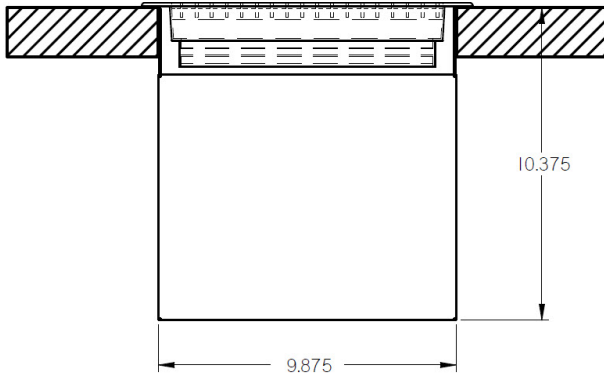
Flared Plenum

Nominal Size (L x W x H)	Actual Dimensions		Pedestal Bracket Qty (Opt.)
	Length	Width	
48" x 11" x 9"	47.875" (1216mm)	10.875" (251mm)	2
72" x 11" x 9"	71.875" (1826mm)	10.875" (251mm)	3
96" x 11" x 9"	95.875" (2435mm)	10.875" (251mm)	4

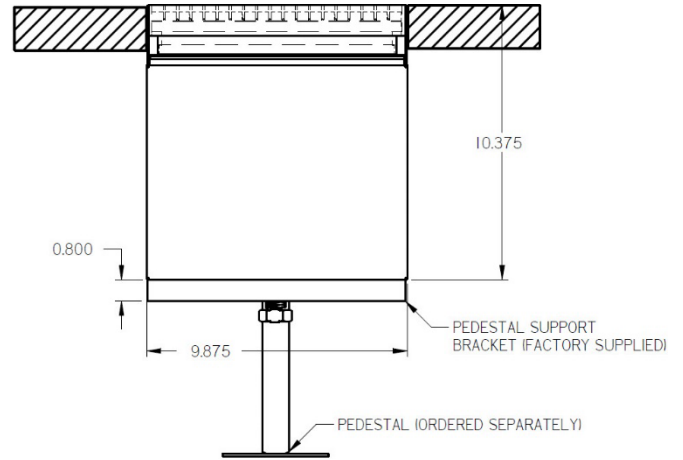
Note: PNT Hydronic drawing shown (see Electric PNT submittal drawing for parts list) Dimensions are the same.

DIMENSIONAL DATA

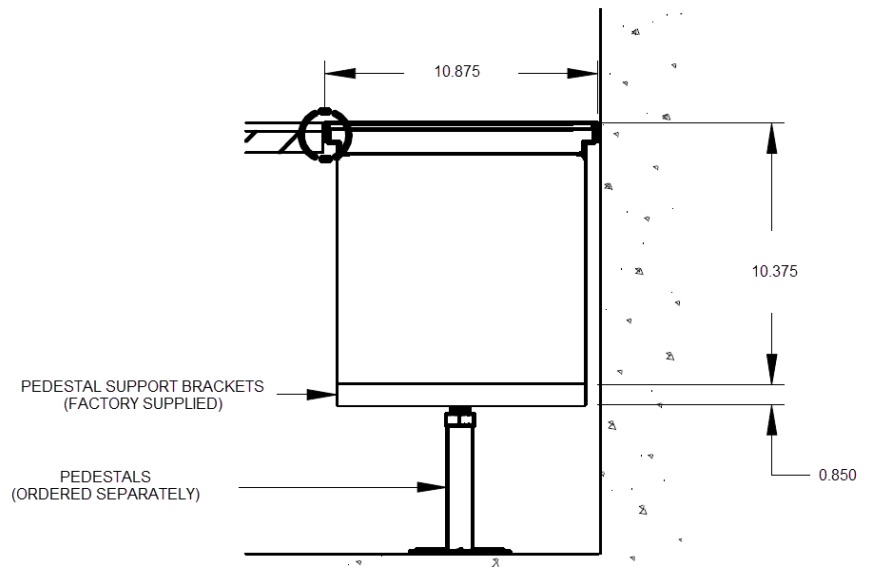
Floor Tile Support-Flanged Trough (LBG Border 1000 Style)



Pedestal Support-Unflanged Trough (LBG Border 125/187 Style)



Pedestal Support-Flared Trough (RBG Style)



**Linear Bar Grille and Roll up Bar Grille (Ordered separately). See LBG or RBG Catalog for more information.

PERFORMANCE DATA

Hydronic Heat Performance

Heating Performance - Fin Tube

Imperial Units		Metric Units	
GPM	Btu/h-ft	L/s	W
0.5	539	0.03	158
1	589	0.06	173
2	669	0.13	196
4	690	0.25	202

Heating Performance - Fin Tube [Hyper Heat]

Imperial Units		Metric Units	
GPM	Btu/h-ft	L/s	W
0.5	700	0.03	205
1	769	0.06	226
2	876	0.13	257
4	903	0.25	265

Heating Performance - Fin Pack Coil

Imperial Units		Metric Units	
GPM	Btu/h-ft	L/s	W
0.5	652	0.03	191
1	718	0.06	210
2	814	0.13	239
4	841	0.25	247

Heating Performance - Fin Pack Coil [Hyper Heat]

Imperial Units		Metric Units	
GPM	Btu/h-ft	L/s	W
0.5	848	0.03	249
1	937	0.06	275
2	1065	0.13	312
4	1100	0.25	323

PERFORMANCE DATA

Airflow Performance

Nominal Size (L x W)	Air Valve Size
48" x 10"	200, 300, 400 CFM
72" x 10"	200, 300, 400 CFM
96" x 10"	400, 600, 800 CFM

~600 CFM available for 72" Hydronic and Cooling PNT only

Electric Heat Data

120-1 V				
Size	KW	AMPS	MCA	MOP
48" long x 10" width	.75 - 1	6.3 - 8.3	7.8 - 10.4	15
72" long x 10" width	1 - 1.5	8.3 - 12.5	10.4 - 15.6	15 - 20
96" long x 10" width	1.5 - 2	12.5 - 16.7	15.6 - 20.8	20 - 25

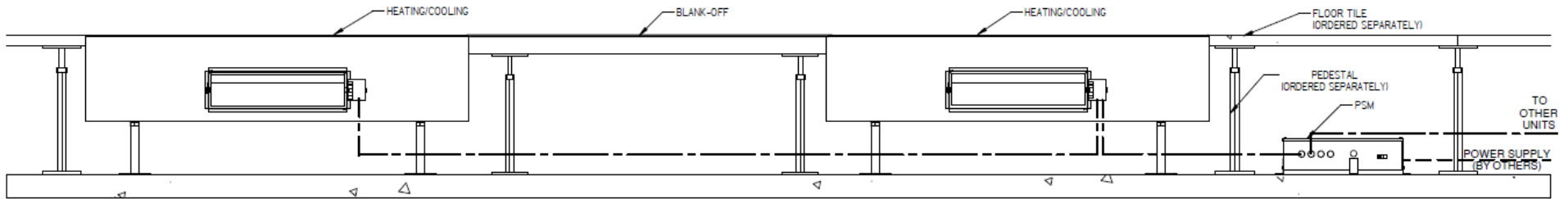
208-1 V				
Size	KW	AMPS	MCA	MOP
48" long x 10" width	.75 - 1	3.6 - 4.8	4.5 - 6.0	15
72" long x 10" width	1 - 1.5	4.8 - 7.2	6.0 - 9.0	15
96" long x 10" width	1.5 - 2	7.2 - 9.6	9.0 - 12.0	15

240-1 V				
Size	KW	AMPS	MCA	MOP
48" long x 10" width	.75 - 1	3.1 - 4.2	3.9 - 5.2	15
72" long x 10" width	1 - 1.5	4.2 - 6.3	5.2 - 7.8	15
96" long x 10" width	1.5 - 2	6.3 - 8.3	7.8 - 10.4	15

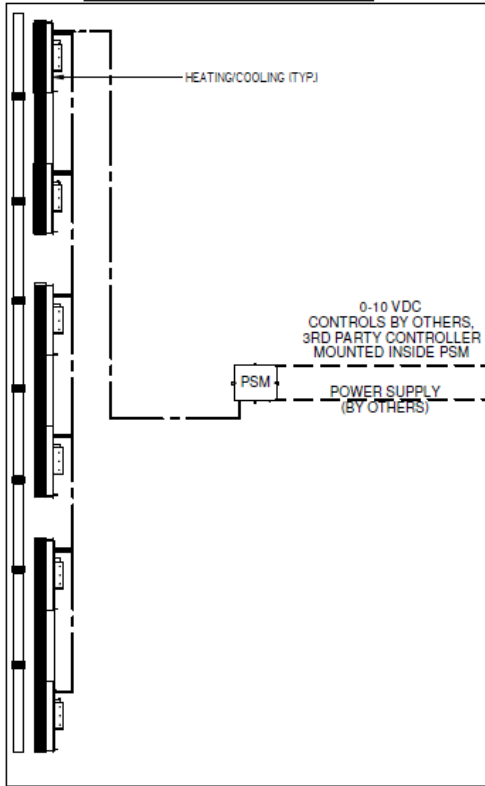
277-1 V				
Size	KW	AMPS	MCA	MOP
48" long x 10" width	.75 - 1	2.7 - 3.6	3.4 - 4.5	15
72" long x 10" width	1 - 1.5	3.6 - 5.4	4.5 - 6.8	15
96" long x 10" width	1.5 - 2	5.4 - 7.2	6.8 - 9.0	15

TYPICAL PERIMETER ZONE DETAIL

PERIMETER ZONE



PERIMETER ZONE PLAN VIEW



NOTES:

1. VARIABLE AIR VOLUME UNITS DAISY CHAINED WITH M-CABLES
2. ALL CABLES USED IN PLENUM MUST MEET PLENUM RATING REQUIREMENTS
3. STANDARD CABLE LENGTH OF 25 FT (15 AND 35FT CABLES AVAILABLE AS NEEDED)

POWER SUPPLY MODULE (PSM):

- PLUG AND PLAY BOARD FOR USE WITH ZONE CONTROLLERS BY OTHERS
- ZONE CONTROLLERS FIELD INSTALLED BY BAS CONTRACTOR
- CONTROL DAMPER POSITION PROPORTIONALLY BASED ON 0-10 VDC INPUT SIGNAL
- SEPARATE SIGNALS FOR COOLING ONLY AND HEAT/COOL UNITS
- MAX 6 UNITS PER LINE
- 6-PIN MTA CONNECTOR, ACCEPTS COMMON OR UNIQUE 0-10 VDC INPUT SIGNAL PER CONNECTOR

OPTIONS:

- 50VA TRANSFORMER, 2 MTA CONNECTORS (MAX 10 DEVICES)
- 50VA TRANSFORMER, 1 MTA CONNECTOR (MAX 10 DEVICES)

WIRING:

- PLACE PSM UNDER TILE NEAR CENTER OF ZONE. COORDINATE LOCATION
- AVOID PLACING UNDER FURNITURE
- WIRE EACH PORT TO THE CLOSEST AVAILABLE UNIT, THEN PROCEED WITH DAISY CHAINING ADDITIONAL UNITS

PERIMETER UNIT:

- PBT
- PNT
- PFT
- HHT

POWER SUPPLY:

- 115V
- 240V
- 277V

WIRE LEGEND

- - - - - BY ELECTRICAL CONTRACTOR
- — — — — MODULAR PLUG & PLAY CABLES (BY GIFS)

