LNT

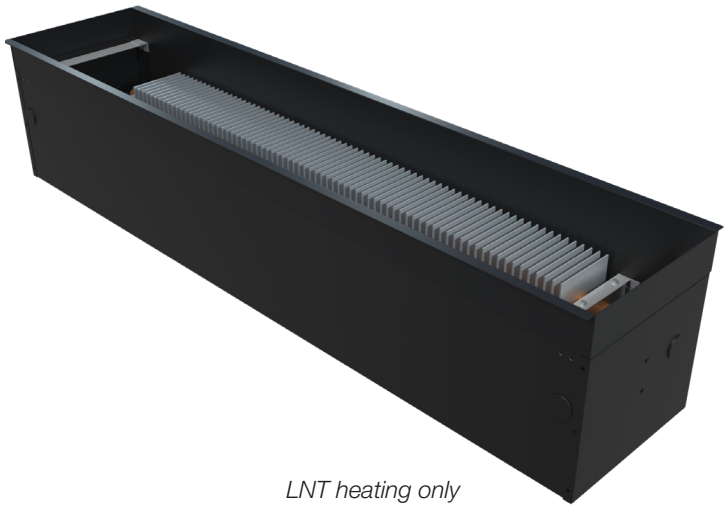
LINEAR NATURAL CONVECTION TERMINAL



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LNT
Linear Natural Convection Terminal

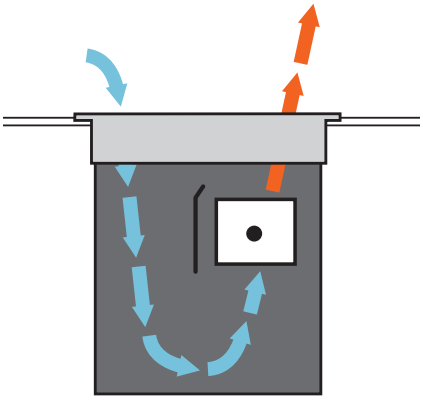
The Linear Natural Convection Terminal (LNT) provides warm air by recirculating room air down through the integrated heating coil. Optional air valves allow for cooling through the same terminal in pressurized raised access floor applications. This uniquely compact design allows for quick drop-in installation and is ideal for perimeter applications. The air valve design allows for it to modulate within the plenum housing, removing the need for extra coordination of the floor pedestal locations. These units are finished with a separate heavy duty Linear Floor Grille (LFG), available in both flanged and flangeless styles.



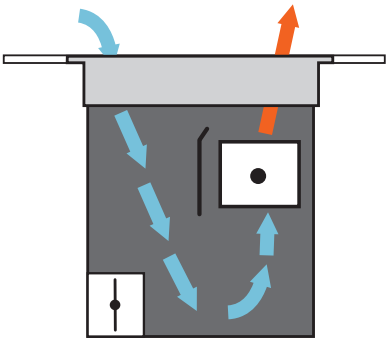
LNT heating only



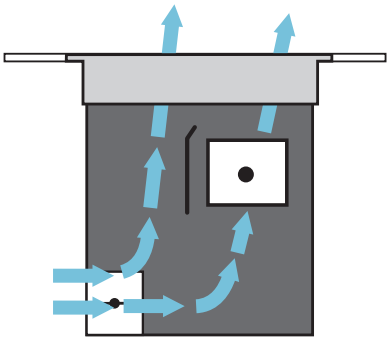
LNT with optional air valve



LNT heating only airflow pattern



LNT airflow pattern in heating mode



LNT airflow pattern in cooling mode

DESIGNED TO MAXIMIZE MODULARITY

+ The LNT linear trough heaters are integral components of the ModuFlex System. See Perimeter Zone PZ1 and Special Zone SZ2 in the ModuFlex overview at the beginning of the Underfloor section for example applications and control solutions.
+ The drop-in plenum design and plug-and-play wiring allow for increased flexibility and ease of installation.
+ Power and control signals delivered to each unit via a single daisy chained cable, with up to six units in series.

DESIGNED FOR EFFICIENCY

+ 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 LNT assembly is rigorously tested and validated in an underfloor application.
+ VAV inlet allows for two-stage heating with ModuFlex control sequences that comply with ASHRAE 90.1.

VARIOUS STYLES

+ 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 LFG floor grille and UFB blank-off plate.

TYPICAL APPLICATIONS

The LNT 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.

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 24 VAC floating point actuator for damper control
+ Plug-and-play connection with native BACnet Power and Control Module (PCM)

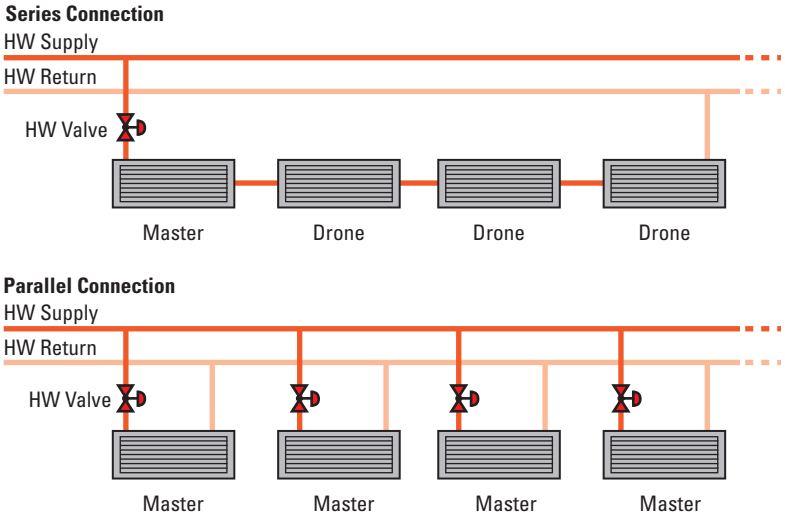
CONNECTING MULTIPLE UNITS

Multiple units of the LNT family can be connected to meet room design requirements. Only hot water versions of LNT may be connected in this fashion. One master unit is required for each zone and up to 3 additional drone units can be connected to a master. The advantage of using this master / drone arrangement is a significant cost savings in control hardware. Each drone unit is piped in series with the master unit so that all fluid flow is controlled by a single hot water valve.

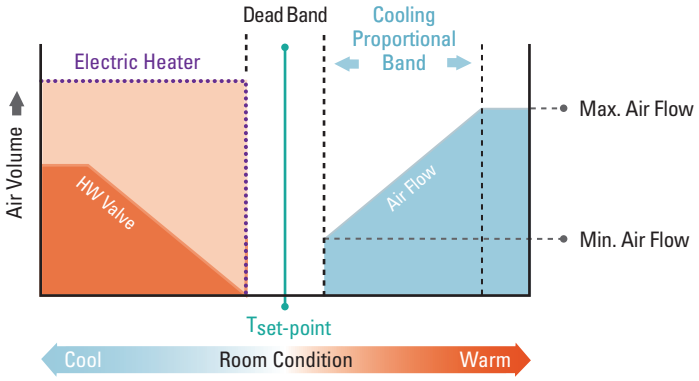
Controls Details

One PCM can control up to 12 LNT linear floor heaters. Each PCM controls a single zone in which all dampers and heaters will operate in synchronization. Each linear floor heater is supplied with a plenum rated and stranded quick-connect cable that allows all units to be plug-and-play daisy chained to each other and plug-and-play connected to the PCM.

When the linear floor heaters are in cooling mode, the dampers will modulate between min and max plenum air flow to allow cool air into the space. When the linear floor heaters are in heating mode, either the electric heater is turned on or the hot water valve modulates between min and max flow. In heating mode, the LNT damper maintains its minimum position.

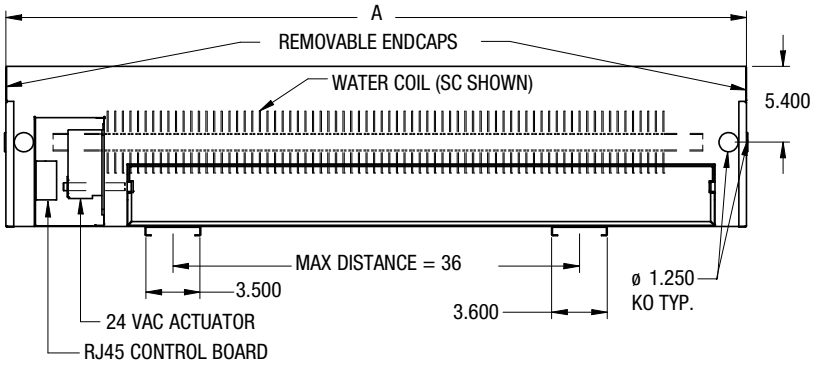


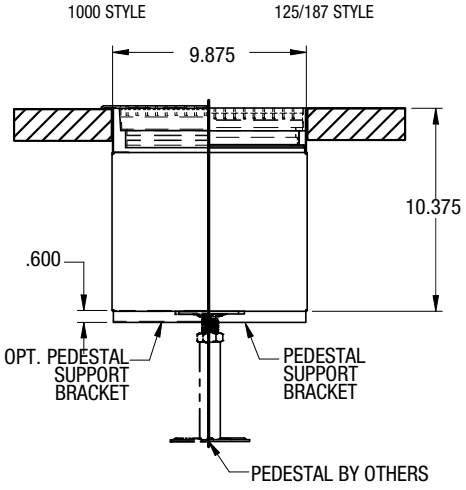
Control sequence

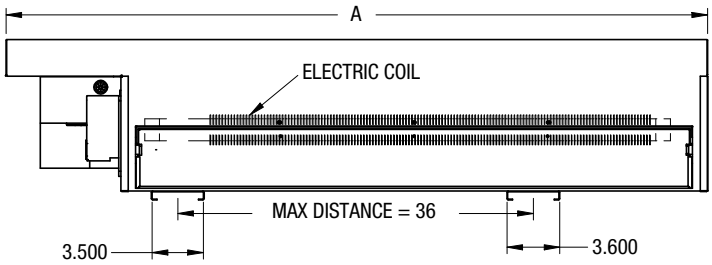


LNT room temperature condition

DIMENSIONAL DATA







Rough Opening (L x W)	Plenum Length A	Air Valve Size
48 x 10	47.875	200, 300, 400 CFM
72 x 10	71.875	200, 300, 400, 600 CFM
96 x 10	95.875	400, 600, 800 CFM
24 x 10*	23.875	100 CFM

* No coil option available

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