SPILOTAIR

A New Type of HVAC Terminal from SPIREC

SPILOTAIR SELF-MIXING TERMINAL

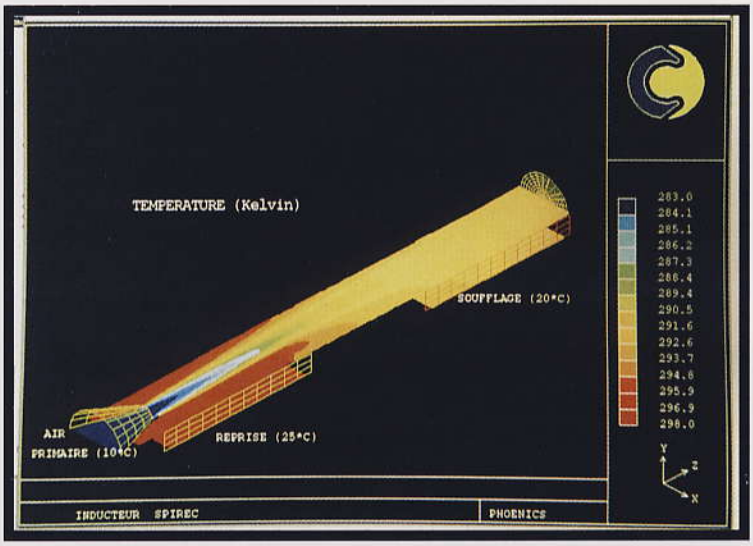
A NEW TOOL FOR CENTRAL STATION AIR CONDITIONING SYSTEMS

SIMPLE • RELIABLE • ECONOMIC
USER COMFORT WITH INDIVIDUAL TEMPERATURE CONTROL
FOR HOTELS, HOSPITALS, SCHOOLS AND INDUSTRY

SPILOTAIR SELF-MIXING TERMINAL

Details

- **Compact round** stainless steel jacketed air to water high capacity spiral plate heat exchanger with sophisticated internal core
- **Water flow path** is welded copper spiral single channel design.
- **Air flow path** is tin and epoxy resin coated copper with extended surface of parallel corrugated channel design. The corrugated channels are placed in the direction of air flow which straightens the air to produce a practically laminar flow which at air velocities below 16 FPS eliminates condensate carryover attenuates noise and reduces fouling.
- **Noise levels below 30 dB(A)** with spiral plate corrugated channel design which looks like a sound trap and acts like a sound trap.

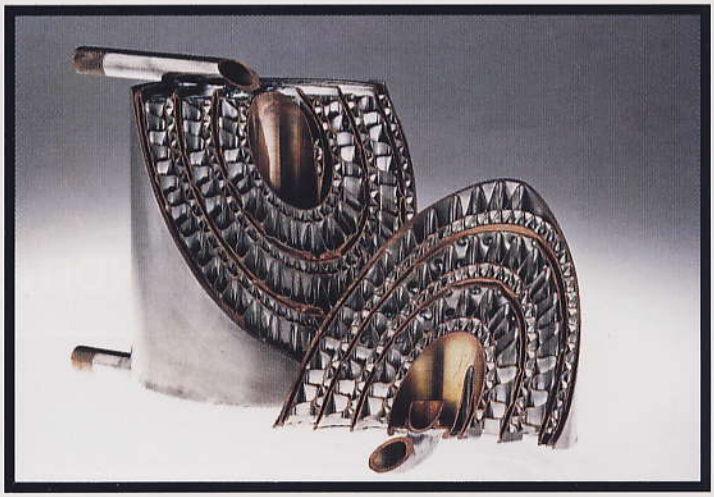


Temperature profile mixing primary and induced air.

- **Constant and high volume air flow** provides a higher level of user comfort with better air distribution at all load conditions. Temperature difference between the floor and ceiling is 1.5 to 2.0 degrees.
- **Discharge air temperature** are 7 to 11 degrees below room ambient temperature. This higher discharge temperature delivers better control, performance and user comfort.
- **Room air velocities** at 0.5 FPS maximize use comfort by reducing the sensation of drafts.
- **Induction nozzle** specially designed to creates a high induction rate.
- **Induction rate (discharge air flow to primary air flow)** is approximately 3 to 1 year round. This high rate delivers the high air volume and discharge temperature associated with user comfort.

Spilotair air to water heat exchanger

- **No moving parts** and corrosion resistant materials assures long life.
- **Positive pressure at discharge** assures positive condensate removal.
- **Round design** makes for easy installation and layout.
- **Installation above the ceiling** in the filtered primary air duct system.



Spilotair cutaway air to water heat exchanger

- **Spilotair induction system advantages:** no induction box, no moving parts, uses standard diffusers, external induction, 100% treated filtered primary air through the terminal, half the duct size used in VAV systems, constant performance for the life of the system, simple design, low maintenance, no air balancing boxes, noise reduction of 50% when compared to conventional systems.

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Performance

Spilotair is two units in one: A **spiral plate heat exchanger** for high capacity heating & cooling and a **sophisticated air side** which straightens the air flow, creates evenly distributed velocities and provides for effective induction and mixing and reduces air noise.

Cooling capacity to 9000 BTUH
Heating capacity to 18000 BTUH
Noise level < NC 25

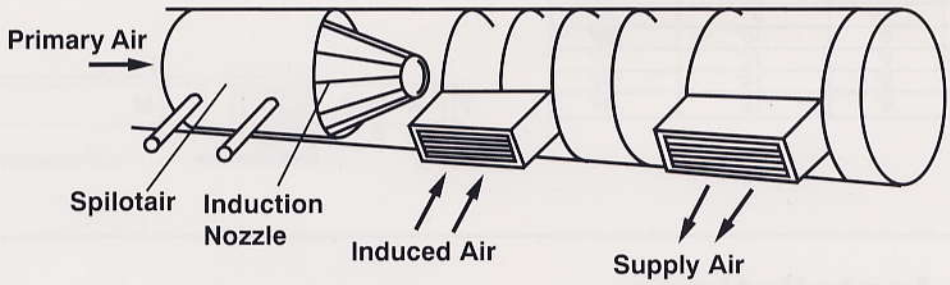
Static pressure needed at intake 1.25" W.G.
Water control - Solenoid valve

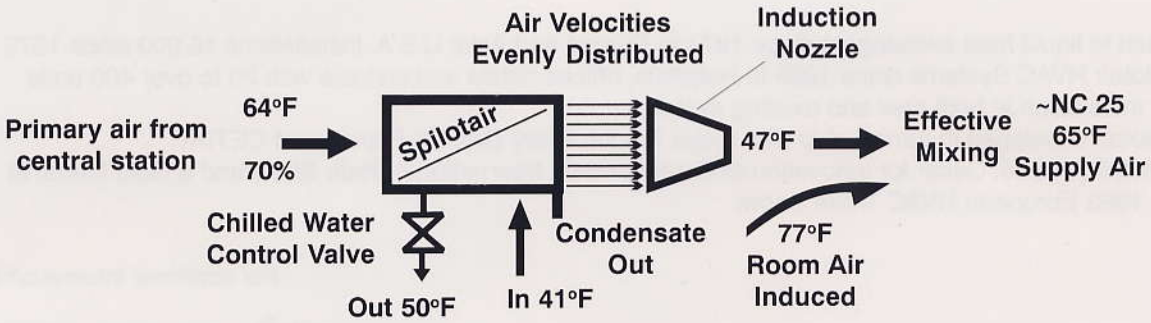
Cooling Performance Example - Spilotair

Primary supply air temperature	64.4 F at 70%
Chilled water temperature	41 F
Room temperature	77 F
Terminal air pressure drop	1.2" WG
Chilled water pressure drop	6.5 ft.
Primary air terminal exit temperature	47.3 F
Induction rate is approximately	2.5 to 1

Performance All Model Sizes

Model Number	Model dia. inch	Primary air flow CFM	Total supply CFM	Chilled water GPH	Total capacity BTUH
ZL100F	4	30	80	0.2	1003
AL125F	5	50	130	0.4	1672
BL160F	6	95	235	0.7	3010
CL160F	6	125	315	0.9	4014
DL200F	8	160	400	1.1	5021
DL250F	10	230	580	1.6	7362
DL251F	10	350	790	1.9	8423





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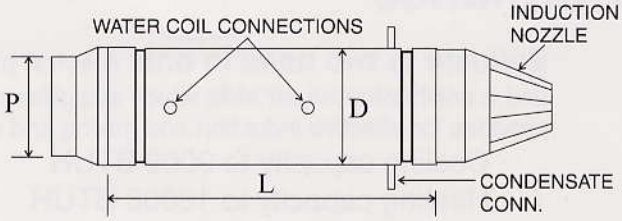
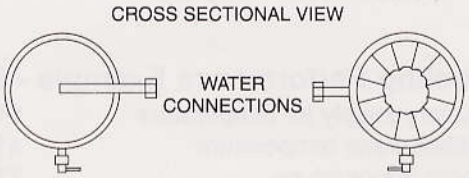
Physical Data

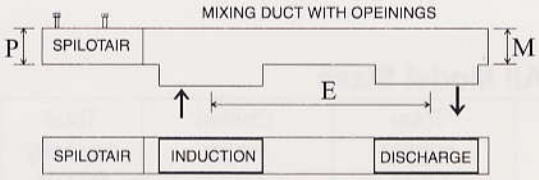
Spilotair Models

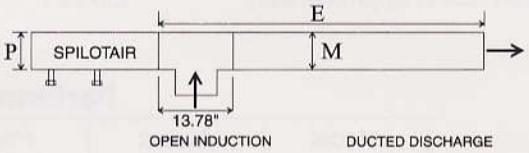
Model	Air Flow CFM	SPILOTAIR Terminal dia. "D" inch	Model dry wgt. lbs.	Model length "L" inch
ZI100F	120	4	7.7	17 3/4
AL125F	200	5	9.5	17 3/4
BL160F	325	6	13.0	17 3/4
CL160F	590	6	15.0	17 3/4
DL200F	1000	8	17.9	17 3/4
DL250F	1475	10	22.3	17 3/4
DL251F	2000	10	25.4	17 3/4

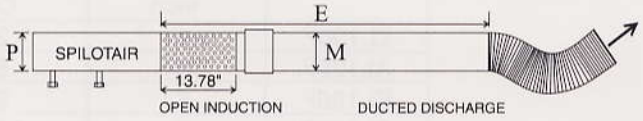


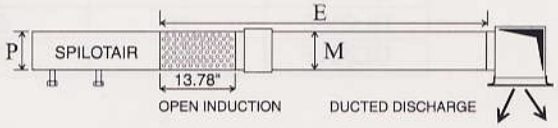


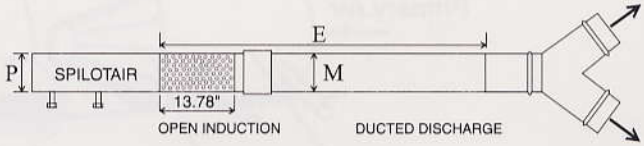
Typical System Configerations











Spilotair Models

Model	Air Flow CFM	INTAKE Primary air duct dia. "P"	DISCHARGE Mixing air duct dia. "M"	Minimum distance induction to discharge "E"
ZI100F	120	4"	5"	30"
AL125F	200	4"	6"	38"
BL160F	325	5"	8"	47"
CL160F	590	5"	10"	59"
DL200F	1000	6"	12"	71"
DL250F	1475	8"	14"	83"
DL251F	2000	8"	16"	95"

World Wide Installations

- Liquid to liquid heat exchangers since 1974 in Europe and Asia; U.S.A. installations 16,000 since 1979
- Spilotair HVAC Systems since 1989 in hospitals, offices hotels and schools with 20 to over 400 units per installation in both new and existing systems.
- Spilotair developed in partnership with major French Utility Gaz De France and CETIAT
- Spilotair Awards: Oscar for Innovation at Expotherm 92 International Trade Show and a Gold Medal at the 1993 European HVAC Trade Show.