Turbonics INC. MANUFACTURER of HYDRONIC FAN COILS

Sub-Surface 19 & 30

Models: T16FML & T253FML

FLOOR-MOUNT

The Sub-Surface Series of Fan Coils Invisibly Solves Hydronic Heating Problems

Hot water heating has long been recognized as the most luxurious and environmentally comfortable heat available. Until now the problem with hot water heating has been the delivery system. Forms of passive radiation such as baseboard and radiators are slow to heat up and they require a large surface area in open air to perform well. Hot water fan coils, while offering compactness, combined with safe, rapid warm-up, still must be mounted where wall space permits. Even when installed fan coils are enclosed in cabinetry, they may or may not blend with the decor of the room. It is no longer necessary to decorate around baseboard or fan coil cabinetry that looks like an appliance. These requirements present real problems when it comes to arranging furniture in a room and decorating around windows and doors. If the radiation system is blocked, in any way, rooms fail to come up to desired temperature or develop "cold spots".

All of these problems are solved by the Sub-Surface series of fan coils. With ceiling-mount and/or floor-mount available, our units provide invisible solutions.

The Sub-Surface hydronic fan coils disappear once they are installed. The only portion of an Sub-Surface that remains visible in a room is the attractive 17 x 17" or 17 x 34" grill with a hammered bronze appearance. The unit itself is located below the surface or ceiling, secured to the joists. This unique arrangement is perfect for installing Sub-Surface units anywhere, including beneath windows and in front of doors. The Sub-Surface units, quietly and invisibly, go where no hydronic fan coil has gone before.

Notable Features:

Invisible: The only part of the unit you actually see is the grill. The grills unique design enhances the performance of the unit by better directing the air flow into the room.

Mounting: The unit can be drop-in mounted in any of four directions, on ceilings or floors.

Compact Size: No other heater packages so many BTUs (up to 30,000) in a unit that tucks neatly between joists.

Controls: An optional wall-mountable variable speed fan control is included with every unit. The unit can be used without this option and be controlled by the heat-sensing aquastat.

http://www.turbonicsinc.com * * Innovation is an American Tradition * * turb624@msn.com
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I. INSTALLATION: General

A. The Sub-Surface series of fan coils are designed to be mounted below a surface. They are suitable for connection to hot water supply at any pressure up to 125 P.S.I. Maximum water temperature should not exceed 200°F. The amount and temperature of water flowing through the unit determines heating output.

B. Building codes and plumbing regulations may vary. Check local codes and regulations before installation.

C. Cut area of floor or ceiling in either 14 ¼" x 14 ¼" *between* studs or joists or if using the CSS30 (double unit) 14 ¼" x 30 ¼" if joists are running in correct direction (cross-brace if necessary). The unit has a working depth of 16" and requires that amount of clear space in attic, basement, or crawlspace.

D. *Affix unit 1" below surface where grill will be mounted. If flooring exceeds 1", affix as closely to the bottom of flooring surface as possible.* Remove bottom (top when ceiling mounting) plate and complete piping and electrical fittings per local codes and requirements. Re-secure plate after completing installation. Install grill and foam for extensions if needed for seal or fit. There are 4 enclosed flat-faced mounting "brackets". Loosen 3 side screws of unit and slide brackets under and tighten. Alternately, you can secure unit from top through holes along unit edge or suspension mount with 2 enclosed "eye L brackets" and hanging rods.

II. PIPING:

A. The piping to the unit will usually be Pex or either ½" or ¾" copper. Threaded fittings are supplied on the unit itself.

B. All piping systems should be designed by a technician with experience in the piping arrangements that work with this type of unit.

C. As with any system employing circulated water, the pipes passing through unheated spaces should be insulated.

D. *When using mono-flo or "venturi" fittings, we suggest placing a ball valve just after the supply take-off and before the return is connected.*

III. PIPING - HOT WATER BOILER:

A. The unit supply line should be taken from the boiler side beyond any flo-control valve. *If the system being used is a gravity-flo or cast iron hot-water system, a separate zone with circulator and thermostat must be installed to control water flow.*

IV. PIPING - WATER HEATER:

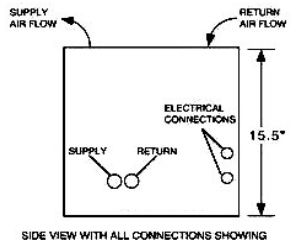
A. To install correctly, a technician with knowledge of piping arrangements and back-flo valves must design the piping system.

B. The return line from the unit must not be attached to any drain tapping at the bottom of the tank, since sediment will be stirred up with this connection.

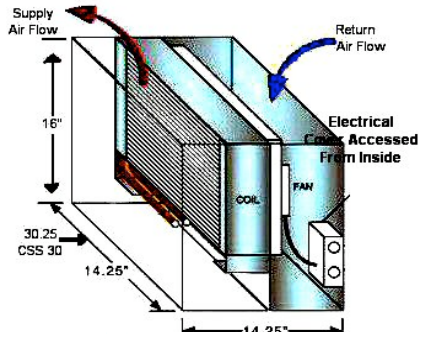
V. WIRING THE UNIT:

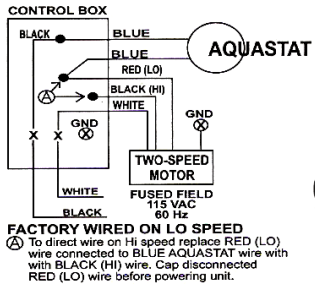
A. Connect wires ONLY at the field wiring box provided on the side of the unit.

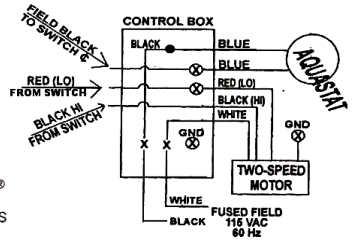
B. The unit is manufactured with a built-in aqua-stat that DOES NOT allow the unit to run until the water temp is 140°F, the unit turns off when the water temperature drops below 110°F.



Metal Floor Grill Included







Optional 2-speed switch instructions

T16FML					
Fan Control/CFM	120˚	140˚	160˚	180˚	200˚
High 160	6000	8800	12000	15000	17000
Low 110	3000	5000	8000	11000	14000
Less than 1 amp	PD: .33' @ 1 GPM	1.0' @ 2 GPM	4.0' @ 4 GPM		

T253FML					
Fan Control/CFM	120˚	140˚	160˚	180˚	200˚
High 320	12000	17600	24000	30000	34000
Low 220	6000	10000	16000	22000	28000
Less than 1 amp	PD: .33' @ 1 GPM	1.0' @ 2 GPM	4.0' @ 4 GPM		

Warranty

Turbonics Inc. warrants to the original user each new product manufactured by it or sold under its trade names to be free from defects in workmanship and material under normal use and service for a period of five years from date of shipment from the factory warehouse excluding the pump on the Chill Chaser whose warranty is one year. The sole liability of Turbonics Inc. under this warranty is limited to repairing, or at its option, replacing free of cost, any defective part or parts f.o.b. its factory, provided that (1) the defective part is returned prepaid to Turbonics Inc. upon its written authorization, and (2) Turbonics Inc. determines the defective part has not been subjected to misuse, abuse, negligence, accident, or improper installation, operation, service, or repair. This warranty does not include any field labor charge involved in removal of the defective part or installation of the repaired or replacement part. During the first year, **with prior factory approval**, a labor charge of $15.00 per hour may be applied for on warranty repairs.

This warranty is made only to the original user of the product and cannot be transferred or assigned, and it is effective only while the product is in use at the place of original installation. Such warranty shall not apply to any product on which the serial number or date of manufacture has been altered, effaced or removed. This warranty applies only to products installed witin the continental boundaries of the United States of America. This warranty constitutes the only warranty, or representation of Turbonics Inc. and no other warranty, or representation, statutory or otherwise, is expressed or may be implied. In no event will Turbonics Inc. be responsible for special or consequential damages of any kind whatsoever.

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