

Data Sheet

FEK Thermostatic Controller

Applications:



FEK thermostatic controllers are sensors capable of controlling hydronic-cooling applications without the need of electronic controls. The FEK

controller is installed in a room that has surplus heat due to internal or external heat sources. As the room temperature rises above the set temperature, the FEK sensor opens the chilled water valve.

FEK is available with a built in sensor (FEK-IF) or remote sensor (FEK-FF). Either type can be used for chilled ceiling applications. The remote sensor type will achieve a quicker reaction time to air temperature changes. For cooling circuits in fancoils and induction units, use the FEK-FF (remote sensor). The remote sensor can be placed below the air inlet cabinet, on a wall surface, or in the air inlet. The FEK climate control is very versatile and adaptable for different applications that involve cooling. FEK-IF's 16' long capillary tube allows the installer flexibility in convenient placement of the dial and remote sensor.

Ordering Information:

Operator	Code No.	Sensor	Capillary Tube	Setting Range
FEK-IF	013G5465	Integrated Sensor	16ft (5m)	62 - 80°F (17 - 27°C)
FEK-FF	013G5464	Remote Sensor	6 + 6ft (2 + 2m)	

Cooling Valves – Require one valve per FEK

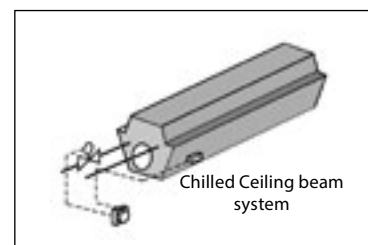
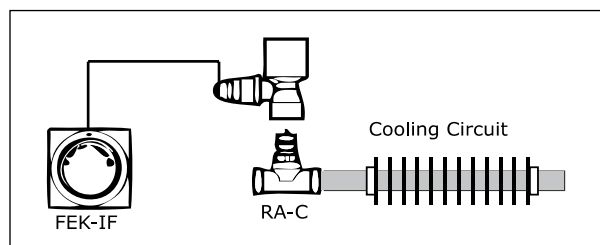
Valve	Code No.	Presettings: Cv - valve				Cv
		1	2	3	N	
RA-C 15	013G3094	0.35	0.64	0.87	1.05	1.39
RA-C 20	013G3096	0.92	1.27	1.97	3.04	3.82

Tail Pieces and Union Nuts – Require two union nuts and two tailpieces

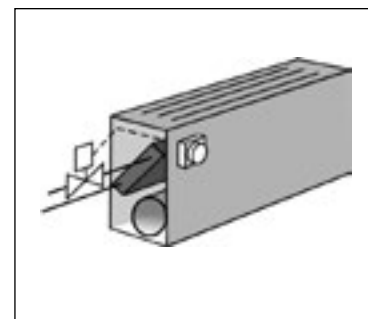
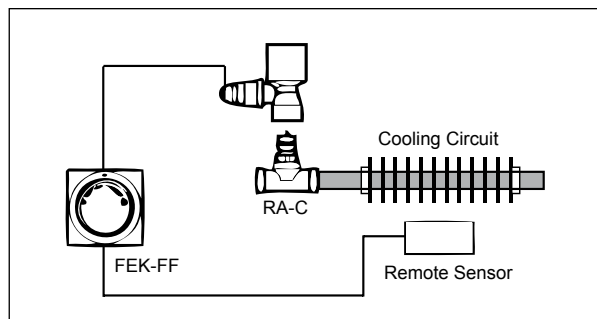
013U0496	1/2" Union Nut
013U8608	1/2" Female Solder Tailpiece
013U0476	1/2" Male NPT Tailpiece
013U0499	3/4" Union Nut
013U8609	3/4" Female Solder Tailpiece
013U0479	3/4" Male NPT Tailpiece

System Layout:

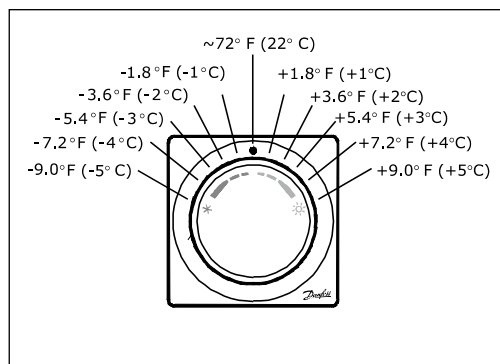
The FEK thermostatic cooling operator is best utilized on 2-pipe hydronic cooling applications.
Control of Cooling Circuit - Chilled Ceiling



Control of Cooling Circuit - Fan coils and induction units



Temperature Setting:



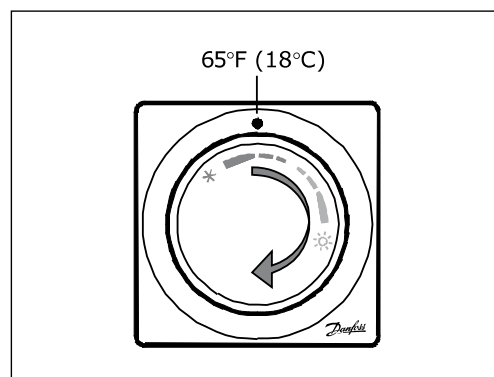
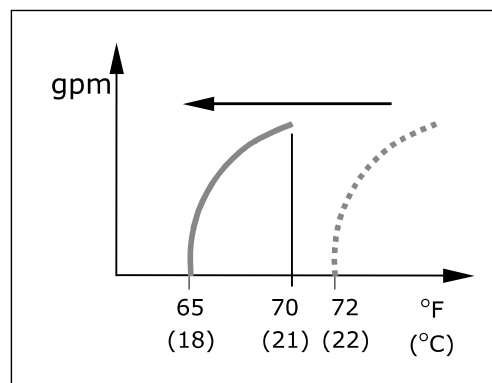
FEK sensors have been developed for room cooling via water-based cooling systems. The FEK sensors are based on the self-acting principle. Liquid-filled sensors control the valves via capillaries and adapters. Colored bars located on the dial represent the approximate set-point offset of 9°F (5°C) from the comfort temperature of 72°F (22°C).

When the dial is rotated to the red or the blue side, the comfort set temperature is shifted as a result. If the dial is adjusted to the blue area, the room's comfort set point is shifted, lowering the temperature point at which the valve will begin to open. A similar reaction will take place with the dial set to the red area, i.e. the cooling valve will begin to open at a higher temperature other than 72°F (22°C).

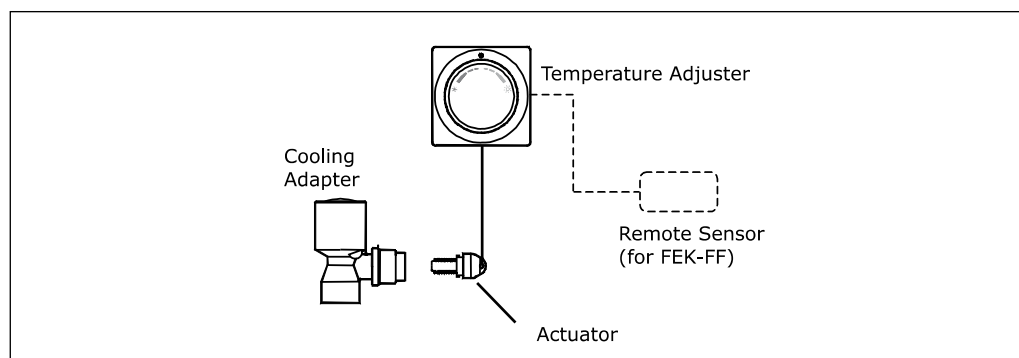
Example

The dial is rotated clockwise to the blue side of the setting, lowering the set comfort temperature

by 3.6°F (2°C), i.e. 72°F (22°C) to approximately 65°F (18°C). The FEK's actuator causes the RA-C valve to open proportionally to the required demand for cooling, thus creating a workable range for the climate control.

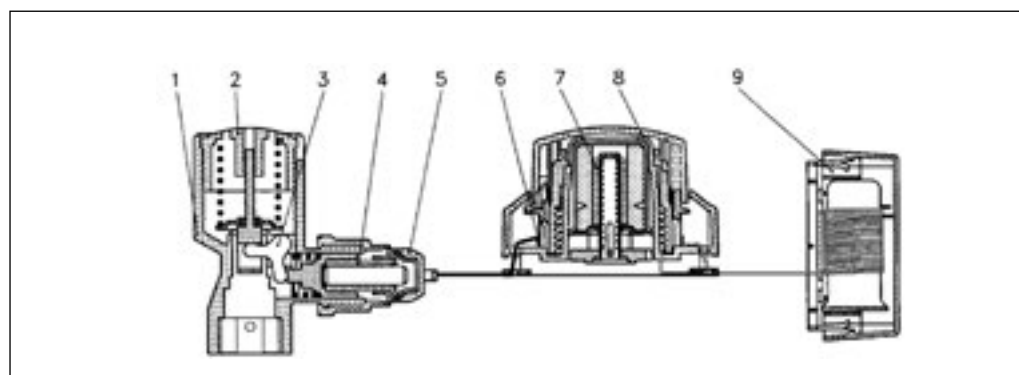
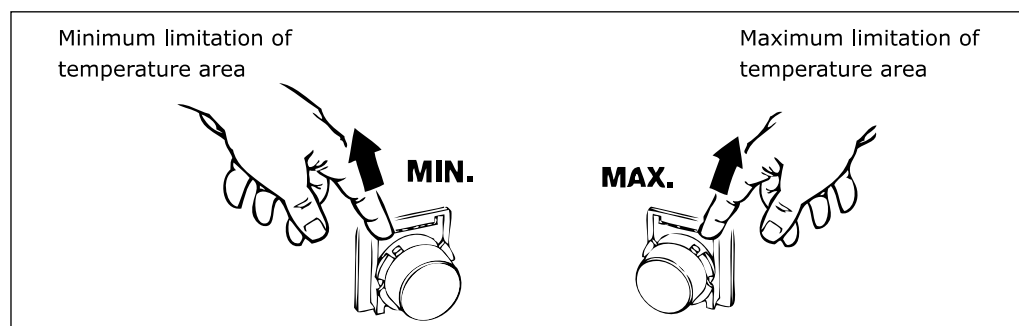


FEK Sensor Design:



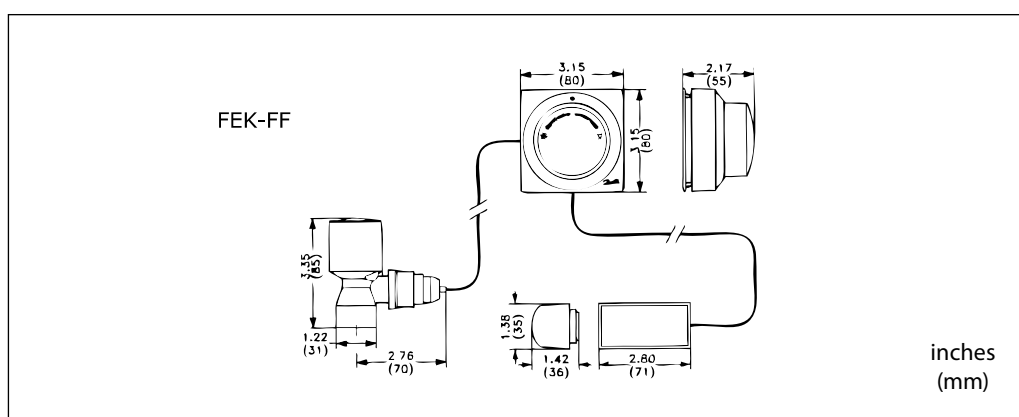
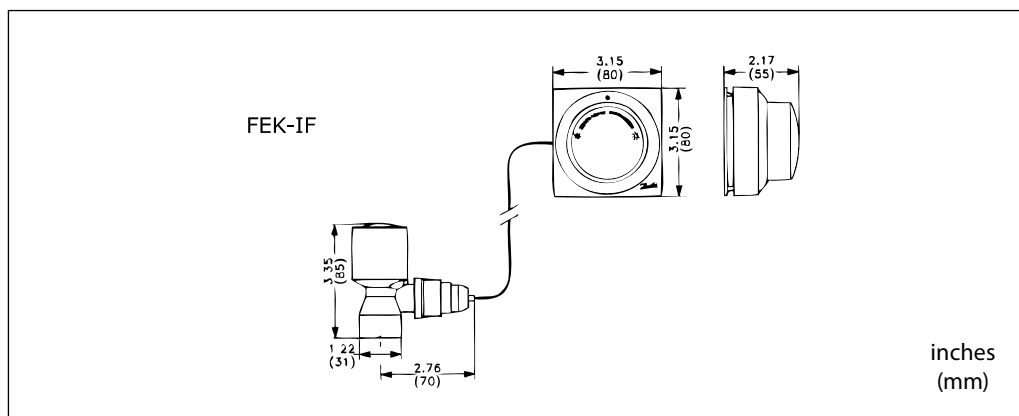
The FEK sensor is equipped with a reverse device for the control of the cooling circuit. With the reverse device, the valve in the cooling circuit will open when the temperature rises above the comfort set temperature. A unique feature built

into the dial is the ability to limit or lock the set temperature by means of the built-in locking/limiting device beneath the faceplate cover of the dial.



- | | |
|---------------------------------|--|
| 1. Cooling adapter | 6. Capillary reel |
| 2. Neutral zone adjustment knob | 7. Bellows |
| 3. Reverse device | 8. Remote temperature adjuster |
| 4. Adjustment bellow | 9. Remote temperature sensor (only FEK-FF) |
| 5. Actuator | |

Dimensions:



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