



## ARGON PERSONAL AIR CONTROL SYSTEM PERSONAL AIR TERMINAL

### DESCRIPTION

The APACS Personal Air Terminal (PAT) consists of five independently adjustable 4-way grilles mounted in a small 19 x 10 x 1.75" enclosure (see Fig. 1 below) for horizontal or vertical installation in a typical office desk or workstation. Supply air is provided to the terminal through a flexible duct connected to an underfloor fan. The PAT is designed nominally to deliver 0 -70 CFM of supply air. The volume is controllable by the occupant using a damper control knob and the 4way adjustable grilles.

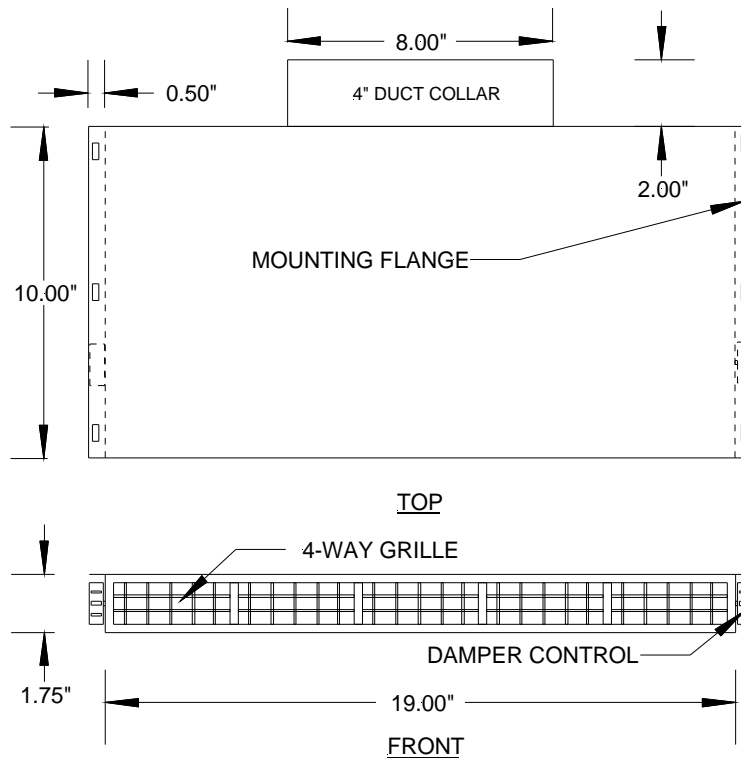
**Occupants can control the temperature they perceive, the "perceived temperature<sup>1</sup>," from 65°F/18°C to 80°F/27°C (with the room temperature at 80°F/27°C) . This range is sufficient for everyone to be comfortable. Room temperature can be set between 78°F/26°C and 80°F/27°C, warm enough for those who tend to feel cold. Enough cooling is available to satisfy everyone's individual sense of thermal comfort. Energy savings compared to room setpoint of 74°F/23°C are about 25%.**

### FEATURES

- Damper control knob for comfort control
- Five independent 4-way adjustable grilles
- 4" duct collar
- Convenient mounting flanges for horizontal or vertical installation

### MATERIALS

- 20 gauge sheet metal (CRS) enclosure
- Powder coated black exterior
- Grille made of flame retardant plastic (UL 94 VO)



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Fig. 1



## EQUIVALENT HOMOGENEOUS TEMPERATURE (EHT)<sup>2</sup>

A measure of heat removal

The cooling effectiveness of the APACS PAT was tested with a thermal manikin. The tests were designed to show how much extra heat removal is provided by the moving air. The results are expressed as Equivalent Homogeneous Temperature (EHT), or the temperature below the ambient temperature needed (without APACS) to provide the same cooling (see Fig. 2). The tests were performed with a dry manikin and designed to show the maximum cooling effect. The occupant can reduce the effect by reducing the air flow with the damper and louvers in front of him or her. The system is similar to those used in cars and airplanes for many years, but at much lower air speeds and noise levels. Since people's skin is moist, the actual total cooling effect is approximately twice that shown by the tests.

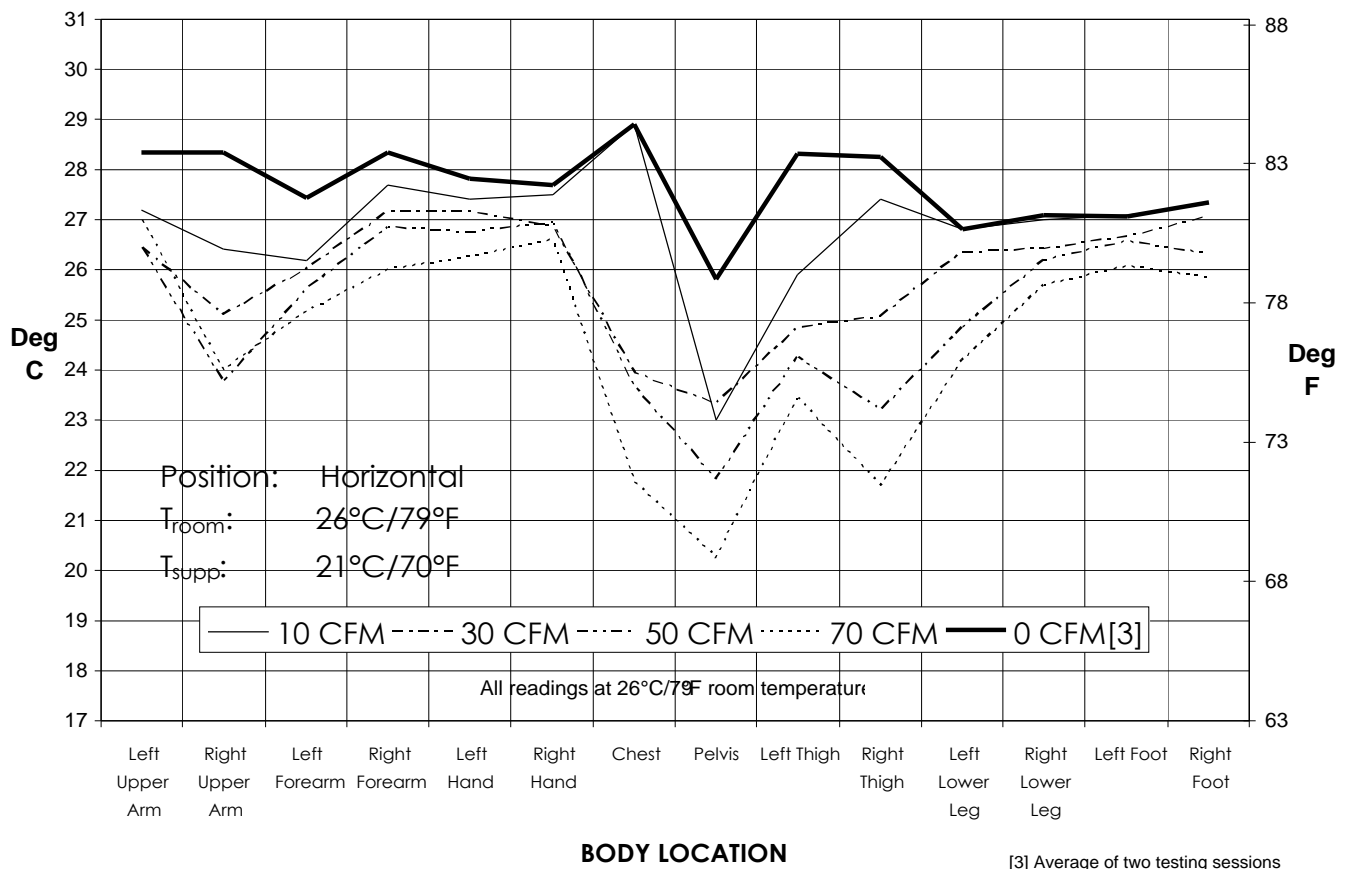


Fig. 2

Data: Center for Environmental Design Research, University of California, Berkeley, CA.  
 Full test report available at argonair.com.

<sup>1</sup>Perceived Temperature is the net result felt by the occupant of Equivalent Homogeneous Temperature (EHT) from sensible cooling further enhanced by the additional latent cooling effect of moving air over the occupant.

<sup>2</sup>Laboratory Report of APACS, F. Bauman, et al., Center for Environmental Design Research, University of California, Berkeley, CA, 2000.