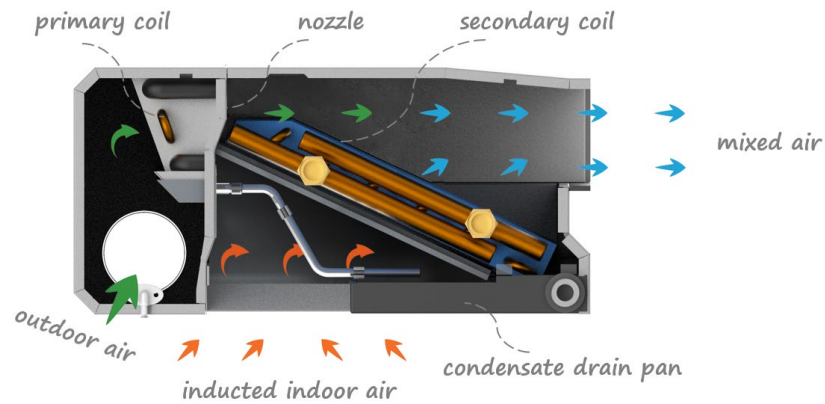


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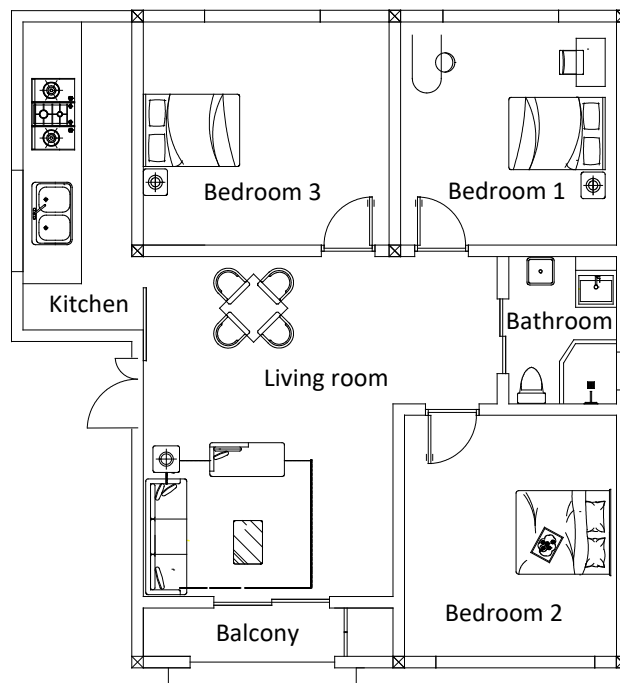
Below is supplementary information for the following article in the November 2025 issue of *ASHRAE Journal*:

Evaluation of a Chilled Beam System for Residential Applications

By Yanbo Li; Ling Lu



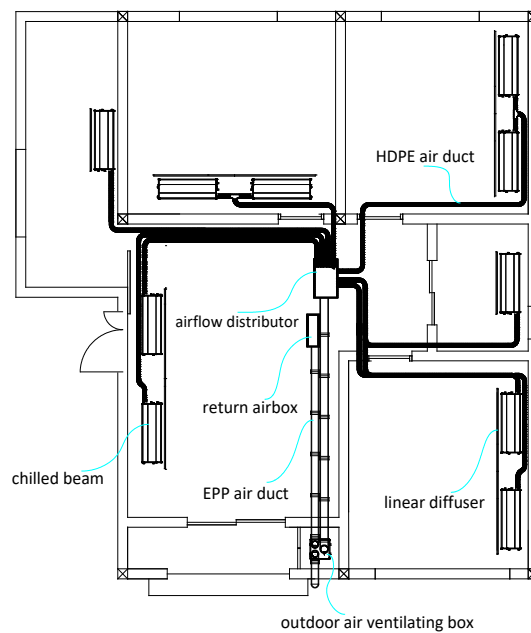
Online Figure 1. Cross section through chilled beam.



Online Figure 2 Layout of mock-up laboratory.

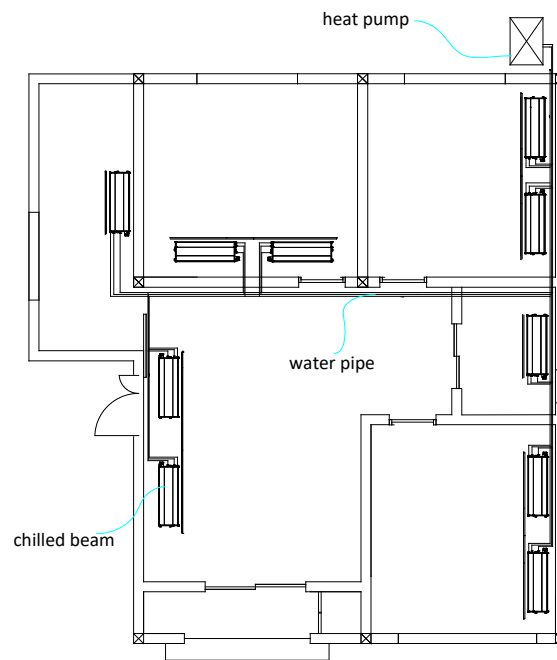
	Air conditioning area	Cooling load(Total Heat)	Cooling load(Latent Heat)	Heating load (Outdoor Air load included)
Bedroom 1	21m ² (226ft ²)	2,624W(5,176Btu/h)	1,134g/h(2.50lb/h)	2,904W(9,908Btu/h)
Bedroom 2	22m ² (237ft ²)	2,835W(9,672Btu/h)	1,170g/h(2.58lb/h)	3,012W(10,276Btu/h)
Bedroom 3	24m ² (258ft ²)	2,729W(9,311Btu/h)	1,243g/h(2.74lb/h)	2,919W(9,959Btu/h)
Living room	43m ² (463ft ²)	3,076W(10,495Btu/h)	1,466g/h(3.23lb/h)	2,369W(8,082Btu/h)
Kitchen	14m ² (151ft ²)	3,023W(10,314Btu/h)	959g/h(2.11lb/h)	1,581W(5,394Btu/h)
Toilet	7m ² (75ft ²)	1,031W(3,517Btu/h)	704g/h(1.55lb/h)	835W(2,849Btu/h)
Total	131m ² (1,410ft ²)	15,318W(52,262Btu/h)	6,676g/h(14.72lb/h)	13,620W(46,469Btu/h)

Online Table 1 Calculation of indoor load.



Online Figure 3 Layout of air system in laboratory.

(More online material is on the next page.)



Online Figure 4 Layout of hydronic system in laboratory.

System operation	Monitoring parameters
Outdoor air, return air, supply air	Temperature, relative humidity, air volume
Outdoor air ventilating box	Fan speed
Heat pump	Inlet/outlet water temperature
Water system	Supply/return water temperature, water flow, cumulative cooling/heating
Power parameters	Power, cumulative power consumption
Indoor status	Temperature, relative humidity
Air quality	PM2.5, TVOC, CO ₂

Online Table 2 Monitoring parameters of energy consumption.