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A low cost 4-pipe system design manages the domestic water temperature to Fan coils as an "HVAC Fixture" reducing installed cost and improving comfort. TRACvalve fan coil performance enhancement system.

1. Application is in buildings that already require extensive domestic water distribution as in Hotels, Dormitories, Condominiums, Assisted living, or Government housing.
2. The system concept may also be used to add heating or reheat to parts of buildings.
3. The major energy efficiency advantage is Central System versus packaged DX units
4. The design requires that the chiller plant be isolated from the domestic water according to code; only Btu's transfer; not the water.
5. The Fan coils must have higher heat transfer capability, code approved valves, and must include a "purge" function to avoid dead legs and stagnation.
6. A Domestic Cold Water Return (DCWR) must be added to the system and sized for the fan coil flow as is the hot water return (DHWR).
7. The domestic water supply temperature is either "economizer cooling" or "free GeoExchange" (no loop cost) – the entire build cooling load can be reclaimed.
8. Additional LEED opportunities include materials reduction, alternate materials, redundancy, CFC reduction, M&V, and "Green" technology in this innovative design.
9. TRACvalve applications in buildings that already use fan coils but want to make them more efficient Hotels, Dormitories, Condominiums, Assisted living, or Government housing.
10. The concept is to provide better space comfort through better fan coil control.
11. The major energy efficiency advantage is reduced impact on the Central Systems due to reduced water flow of up to 80%
12. The design requirement – Size the fan coil for the design day but have the ability to operate at real time loads
13. 300:1 Range ability allows for higher Delta-T while reducing flow. Reduced flow means less work for the chiller and boiler
14. Self – balancing and self-commissioning.