

ESPPM 2017
Keeping Up With
Emerging Technology :
#Samsung



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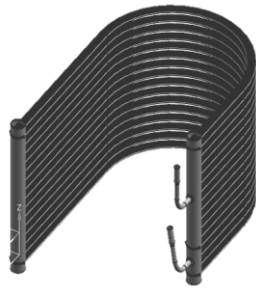
Winning Innovations in Consumer Electronics

- Make life easier and healthier for the consumer
- Provide enhanced consumer experience throughout the product life cycle
- Keep sustainability at the forefront

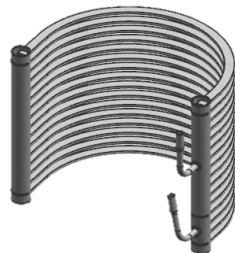
'16~'17 ETA Winning Technology: Refrigerant

- R600a charge minimization technologies
 - ✓ More compact PFC (Parallel Flow Condenser)
 - ✓ Small tube heat loop
 - ✓ Sleeve-less accumulator
- Energy Efficient R600a compressor technology

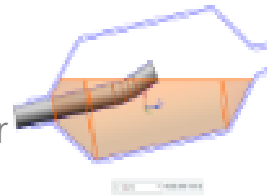
Previous condenser



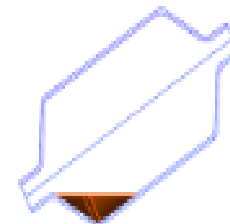
More compact condenser



Previous accumulator



Sleeve-less accumulator



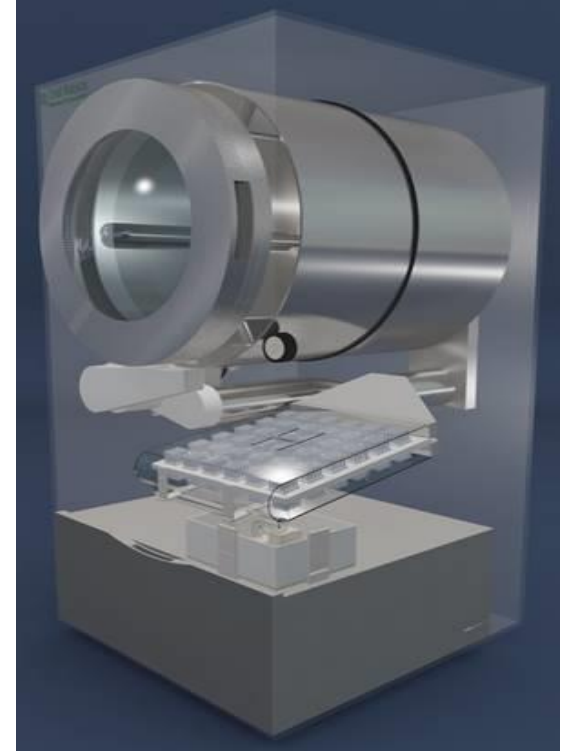
Refrigerator – Convenience & Energy Saving

- Innovative exterior door to access most-used food items in no time; like a fridge within a fridge for added convenience
 - ✓ Opening ShowCase door loses less energy compared to opening the main doors; door-in-door (DID) has potential to save energy
- Ability to see the inside without opening the door



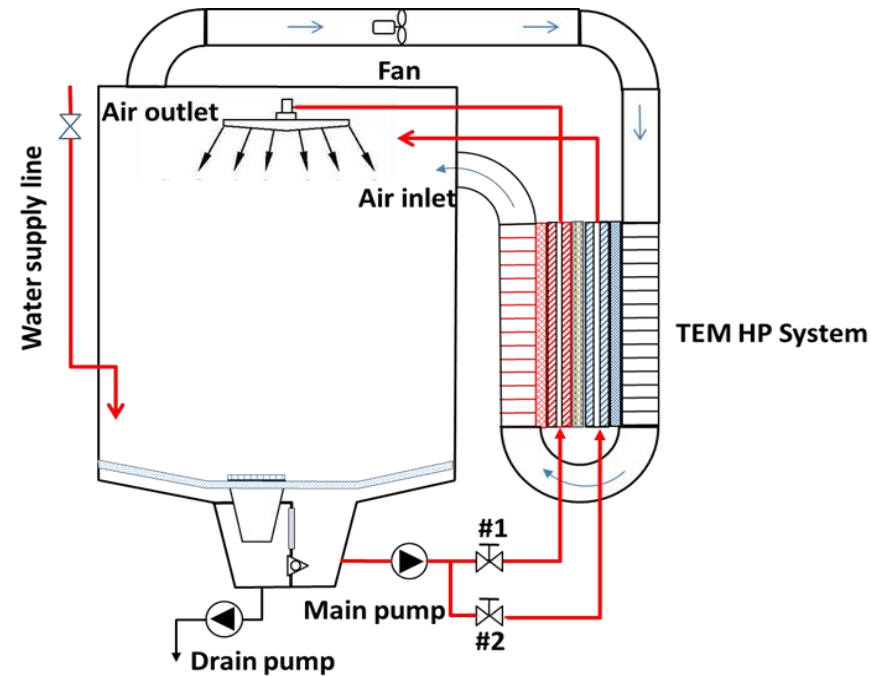
Thermoelectric Heat Pump Clothes Dryer

- Thermoelectric heat pump clothes recovers heat from exhaust air using solid state thermoelectric modules (TEMs) instead of using a compressor
- Benefits of thermoelectric clothes dryers:
 - ✓ High energy efficiency at DOE test condition
 - ✓ Even more energy efficient in real usages
 - ✓ No need for flammable refrigerants as compared to vapor compression based heat pump systems
 - ✓ Inherent capability of modulating heat capacity thus providing better fabric care
- Collaboration with Oakridge National Lab (ORNL) on a design and evaluation study for feasibility in the US market



Dishwasher Waste Heat Recovery System

- Conventional dishwasher cycle consists of four sequences: Prewash > Wash > 1st Rinse > 2nd Rinse > Drying
- Hot water is supplied to dishwasher at a temperature around 110F and further reheated to about 150F for effective dishwashing. Afterwards water is pumped out around 100F where the energy is wasted in significant amount
 - ✓ Thermoelectric heat pump will feed heat from drained water back to the dishwasher
- Collaboration with Oakridge National Lab (ONL) on a design and evaluation study for feasibility in the US market



Garment Care and Saving Time

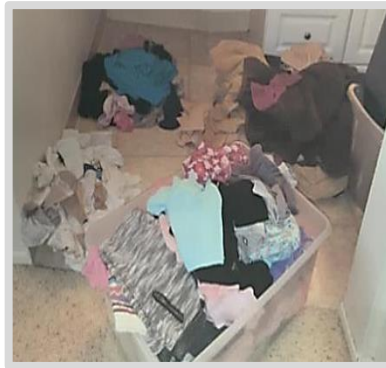
Separate Wash and Dry : sorting items and doing multiple washes

87%
of US



Color vs. White
Need to be washed separately

85%
of AUS



Different types of
fabric/materials

98% **85%**
of Korea of France



Delicate items that need care



SAMSUNG Connect

