The Split AC Refrigeration Cycle
3 C LIQUID

EVAPORATOR

BTU’s

ROOM

OUTSIDE

30 C

35 C
Evaporator Coil Absorbing the Cooling Load
3 C LIQUID

10 C GAS

EVAPORATOR

SUN

30 C

25 C

ROOM

OUTSIDE

35 C
Evaporator Coil Boils the Liquid
Room 30 C
25 C

Compressor

10 C Gas

50 C Gas

Sun

3 C Liquid

Outside 35 C
- SUN
- ROOM
- OUTSIDE

- 30 C GAS
- 50 C GAS
- 3 C LIQUID
- 38 C LIQUID
- Capillary Tube
Expansion Devise

Capillary Tube

Strainer

Refrigerant Flow
Heat transferred to the outdoor air

Condenser Coil

Hot Gas Condenses to a Liquid

Condenser

Suction Line

Heat Carried To Compressor

Liquid Line

Accumulator

Evaporator Coil

Liquid Boils To A Vapor

Metering Device

Strainer

Heat absorbed by the low pressure refrigerant
MINI-SPLIT SYSTEM, “panas – dingin”

HOT REFRIGERANT

CONDENSER

EVAPORATOR

COMPRESSOR

Capillary Tube
MINI-SPLIT SYSTEM, “dingin - dingin”

- SUN
- CONDENSER
- EVAPORATOR
- COMPRESSOR
- COLD REFRIGERANT
- Capillary Tube
Refrigeration Cycle

Vapor-compression refrigeration cycle

Heat content: sensible + latent, btu/lb
Refrigeration Cycle
Refrigeration Cycle

- Condenser
- Subcooled
- Desuperheat
- Compress

Pressure

Enthalpy
Refrigeration Cycle

- **A**: Evaporation or Flash
- **B**: Compress or Condenser
- **C**: Condenser or Evaporator
- **D**: Expansion Device or Condenser
Skeleton Mollier Chart
Showing Vapor Compression Refrigeration Cycle
2 - Stage Centrifugal Chiller

Pressure, psia

Enthalpy, btu/lb

economize

evaporate

condens

expansion devices

2-stage compress or
The Split AC Refrigeration Cycle

Thank You
Condenser Unit

- Common Hot Gas Manifold
- Parallel Circuits
- Discharge Line
- Liquid Line Pressure
- Liquid Pressure
- Compressor
- Suction Line