



As a rule of thumb when adding an APR Control to a dual circuit/dual stage unit, only one APR Control is necessary and should be installed on the lead circuit or lead stage compressor. When a dual circuit system employs the APR Control on the lead (first on/last off) circuit, the system will be able to provide modulation to both stages of operation.

As an example; a 10 ton dual circuit/dual stage package system with a 5 ton lead stage would employ an APR-410-3 to provide 3.5-4 tons capacity modulation on the lead compressor. As the load on the system drops off from full load of 10 tons, the APR Control will modulate the lead stage allowing the second stage to operate independently. As the load on the system drops, the APR Control will reduce system capacity by reducing refrigerant flow to the evaporator coil from 10 tons down to around 6 tons. As the load continues to fall, the second stage will shut off as a result of reduced load*. At that point, only the lead circuit with the APR Control will be operating as if it were a simple 5 ton system, modulating from 5 tons to around 1 ton. ***Note: APR Control selection is based on minimum suction velocity requirements to maintain proper oil entrainment up suction risers, especially in split system applications.*

The APR Control can also be applied to dual stage tandem compressors configuration (usually labeled dual stage/single circuit) by installing the APR Control connections to the common hot gas discharge, and suction line.

There are also exceptions to the rule of installing one APR Control on a dual circuit unit. When working on units that have lead lag, split faced/over under coils, or dual circuit machines with high percentage outside air, there are times when multiple APR Controls are necessary to help with the dehumidification process. Our technical applications team welcomes your call to discuss the applications in greater detail to help determine if multiple APR Controls are needed.