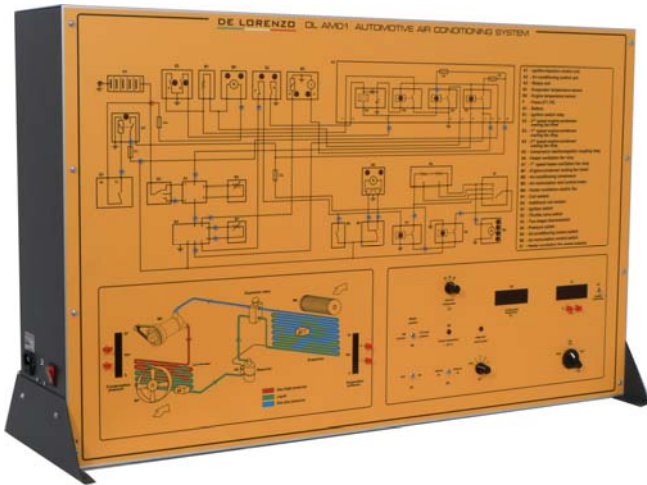




## AIR CONDITIONING FOR AUTOMOBILES



**DL AM01**

To cool the external air refrigerating compressor based systems are exclusively used.

The compressor activated by the engine compresses the refrigerant which consequently warms up; in the condenser the working fluid is cooled until it reaches the liquid phase. The cooling is obtained by giving heat to the exterior in the zone around the compressor. The cooled fluid expands in the expansion valve and in the evaporator and is transformed in gas. The heat necessary for such transformation is subtracted from the entering cool air.

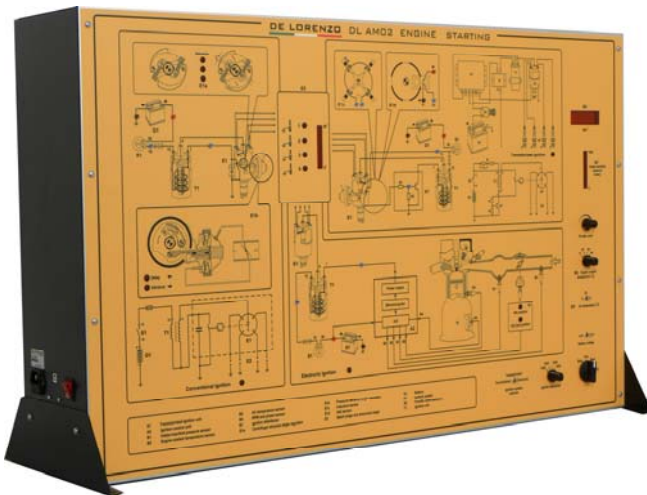
The simulator analyzes all the phases of the refrigeration cycle. In particular:

- Relations between temperature and pressure in the refrigerant
- Operation of the compressor
- Operation of the condenser
- Pressure switches
- Temperature regulation

The panel is complete with CAI software.

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## ENGINE STARTING



**DL AM02**

This simulation panel deals with the study of the starting techniques used in the Otto cycle motors. The main types of starting are here analyzed: conventional with coil, with transistors and electronic starting.

As a first starting system, the simulator analyzes the conventional starting with coil in which the system is controlled by contacts. This means that the current which flows through the starting coil is inserted or de-inserted mechanically through a contact in the starting distributor.

Then, the simulator analyzes the starting system with transistors, where the starting contact-breaker does not have to control any more the current of the primary, but only the control current of a transistor which takes care of the switching of the current of the primary. In addition for the starting system with transistors and control through contacts also the versions of transistor starting system with priming system through Hall transducer or through inductive transducer are here analyzed in detail. Finally, the simulation panel studies also the electronic starting in which the mechanical regulator of the spark advance is eliminated and the same spark advance is calculated by the electronic control panel.

The panel is complete with CAI software.