

Arizona Department of Education

Career and Technical Education

Recommended Equipment List

Program: Heating, Ventilation and Air Conditioning
CIP#: 47.0200.00

NOTE: The following items and descriptions are the recommended equipment guidelines for each **CTE Heating, Ventilation and Air Conditioning** program. Please note that this list of recommended items does not necessarily need to be supported financially by Federal Perkins or State Priority funding sources. In many cases, local school district funds are used to purchase items on a regular basis (i.e. furniture, consumables, etc.) Further, please understand that this is not an exhaustive list.

Please contact ADE-CTE Program Specialist for Heating, Ventilation and Air Conditioning, Jamie Miller (Jamie.Miller@azed.gov), if you have questions regarding the appropriateness of any item you are considering for addition to your **CTE Heating, Ventilation and Air Conditioning** program.

Recommended Equipment and Software

Item	Items
Highest Priority* MUST HAVE	
Safety Glasses / Goggles / Face Shield	Tachometers
Respirators	Thermometers
Air Conditioners	Tubing cutters
Air conditioning / Electrical Hand Tools	Velometers / anemometers
Air Handlers	Voltage tester
Air volume balancer	Capillary tubes
All Types Compressors	Thermal expansion valve (TEV or TXV)
Aprons / Lab Coat (optional)	Low-side float valve
Boiler	Tape measures
Borescopes	Architect's drafting scales
Chiller	Handheld tubing cutters
Clamp-on ammeters	Electronic wheel scalers
Cooling Tower	Electronic expansion valve (EEV)
Digital thermometers	Tool Belts / Boxes
Ear Protection	Hacksaws
Electronic hygrometer	Straightedges
Electronic leak detectors	Reaming tools
Electronic thermometer	Bending springs
Flow hood	Handheld tubing benders
Fully Equipped Tool Boxes for Lab Demos.	Thermal-electric expansion valve (TEEV or THEV)
Gas Packs	Flare fittings
Gloves-Leather & Neoprene / Oil-resistant gloves	Flaring tool sets
Hard Hat	Flare nut wrenches
Heat Pumps	Swaging tools
HVAC Trainers	Plastic pipe cutters
Meters	Head pressure control valve
Multimeters	Fixed-orifice devices
Oil pump / Vacuum Pump	Pulsing solenoid EEV
Oxyacetylene torch and tips	Vaporator pressure regulating valve
Package Units / Split Systems	PVC saws
Pitot tubes	Fire extinguisher
Refrigerant Recovery Systems w/ cylinders	Fire blanket
Rotating vane	Various screw drivers / regular, phillips, etc.
Safety Posters	Various size nut drivers
SDS Sheets	Manual expansion valve
Sling psychrometer	Various pliers

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Spark lighter	Automatic expansion valve
Static pressure tips	High-side float valve
Swinging vane	
High Priority* REALLY SHOULD HAVE	
Construction calculators	Air / acetylene torch set / appropriate tip
Rubber or latex gloves	Self-igniting soldering torch head
Lower Priority* NICE TO HAVE	
Construction calculator	Pressure washer

***NOTE:**

Equipment and tools list from NCCER HVAC level 1, internet search, SkillsUSA contest list and Arizona Instructors

Suggested tools and equipment may not reflect all necessary tools and equipment needed