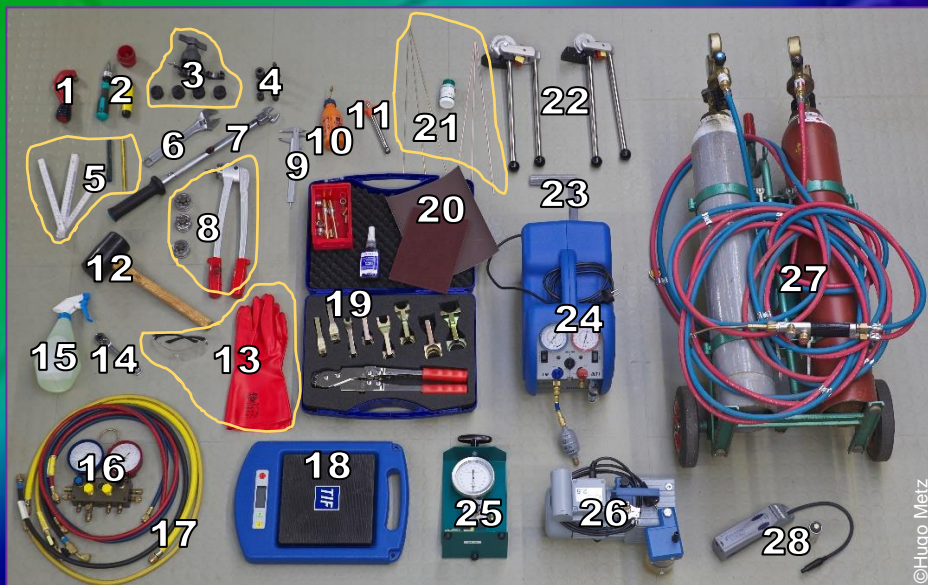




TOOLS COMMONLY USED BY REFRIGERATION AND AIR-CONDITIONING TECHNICIANS





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|--|--|
| 1 Copper tube cutter | 18 Weighing scale |
| 2 Deburring tools | 19 Tool kit for press fittings (<i>Lokring</i>) |
| 3 Flaring tool (other types are available) | 20 Non-metallic abrasive pad |
| 4 Pipe calibration tools (internal/external) | 21 Phosphorus brazing alloy, silver brazing alloy & flux |
| 5 Ruler, pen & pencil | 22 Pipe bending tools |
| 6 Adjustable wrench | 23 Engineer's square |
| 7 Torque wrench | 24 Recovery and recycling unit |
| 8 Tube expander tool & expander heads | 25 Vacuum gauge |
| 9 Vernier calliper | 26 Vacuum pump |
| 10 Oil can | 27 Oxy-acetylene torch set |
| 11 Torch igniter | 28 Electronic leak detector and calibrated leak test |
| 12 Rubber mallet | |
| 13 Safety glasses & insulating gloves | |
| 14 Refrigeration ratchet | |
| 15 Spray bottle (for leak detection) | |
| 16 Manifold gauge | |
| 17 Hoses | |



Recovery piercing pliers

Personal protective equipment should include standard items such as goggles, gloves and fire extinguisher. Depending on refrigerant, other equipment may be required such as: special respiratory protection (canister type self-contained respirators or breathing equipment), protective clothing including face-shield, gas-tight goggles, gauntlet thermal insulating gloves, protective suit and hood, rubber boots, etc. A safety shower or bath and an eye fountain may also be required.

Additional tools for higher flammability, higher pressure and higher toxicity refrigerants



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Refrigerant gas detectors for hydrocarbon refrigerants (left), ammonia (centre) and carbon dioxide (right)



© Mastercool

Electronic manifold gauge set that can be used with flammable refrigerants, ammonia and high pressure refrigerants (up to 50 bar)



© panimpex.com

Manifold gauge set for use with carbon dioxide (up to 160 bar)



Refrigerant Recovery cylinder



© cm-green

Refrigerant recover machines for hydrocarbons (left) and all flammable refrigerants except ammonia (right)



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Ammonia recovery pump set

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