

SCUBA BASIC LESSON 4

	Purpose	Types	Features	Selection	Care & Maintenance
Tank	To store compressed air safely at high pressures	Aluminum and steel	<ol style="list-style-type: none"> Sizes: 50, 63, 71.2, 80 Working pressures: 1800, 2250, 3000, 5000 Serial number manufacturer's markings Pressure test expiration date (5 yr.) Visual inspection date (1 yr.) Boat and mesh 	Based on physical size	<ol style="list-style-type: none"> Fresh water rinse Keep water out Visual inspection (1 yr.) Hydrostatic testing (5 yr.) Storage Safety practices: <ul style="list-style-type: none"> Store full for short periods Store w/ ≥ 300 psi (low pressure) extend periods. Handling and transporting
Tank Valve	To start and stop the flow of air from a SCUBA tank.	J-valve, K-valve	<ol style="list-style-type: none"> O-ring Snorkel tube Burst disk Reserve 	Type of diving and/or preference (K-valve most common in US)	<p><u>Charles Law/Amonton's Law:</u> (T) and pressure (P) have a direct relationship. As temperature increases pressure increases (wheel barrel)</p> <p><u>T↑ (1° F) P↑ (5 psi)</u></p>
Regulator	To deliver air upon demand at ambient pressure	Bottom exhaust and side exhaust	<ol style="list-style-type: none"> First stage - reduces pressure to 140 psi Low pressure hose Second stage - reduces pressure to ambient pressure Yoke and yoke screw Dust cover Air inlet High pressure hose Submersible pressure gauge (SPG)/console Purge button Exhaust Regulator attachments BC low pressure inflator hose Extra second stage (octopus) 	<p>Type of diving and/or preference</p> <p>How second stage delivers air at ambient pressure - diaphragm and lever operation.</p>	<ol style="list-style-type: none"> Fresh water rinse Keep water out Professionally serviced when needed.

Key Points

<ol style="list-style-type: none"> Store in a cool dry place (not in 120° car trunk) Store with 300 psi (no pressure then moisture may get into tank) Tanks must be cooled as filled (H₂O) Visual inspection (1 yr.); Hydrostatic testing (5 yr.) Handle with care - always lay tanks down 	<ol style="list-style-type: none"> Constant expansion and contraction w/ temp change = weaken tank Regulator delivers air at ambient pressure 1°F = 5 psi or 1°C = 0.6 atm
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