

WHY WATER COOLING?

“Nitrox Bob” developed water cooling compressors specifically to address the heat issues he had seen on live aboard dive boats, resorts, dive shops and yachts over the past 11 years. These heat problems are amplified dramatically when Nitrox is introduced to the mix.

Water cooling a compressor is done for several reasons:

1. Any oil lubricated compressor that is used to compress Nitrox should be water cooled to reduce the risks of fire and explosion.
2. Any compressor located in a poorly ventilated area should be water cooled to remove excess heat buildup.
3. Water cooled compressors run at a much lower operating temperature which extends the life of the compressor.
4. Water Cooling improves the efficiency and extends the life of low and high pressure filtration systems.
5. Water cooled compressors can be installed in areas that may be unsuitable for an air cooled compressor.
6. Water cooled compressors can be packaged in smaller, self contained, custom cabinets utilizing less space and lower ventilation requirements.

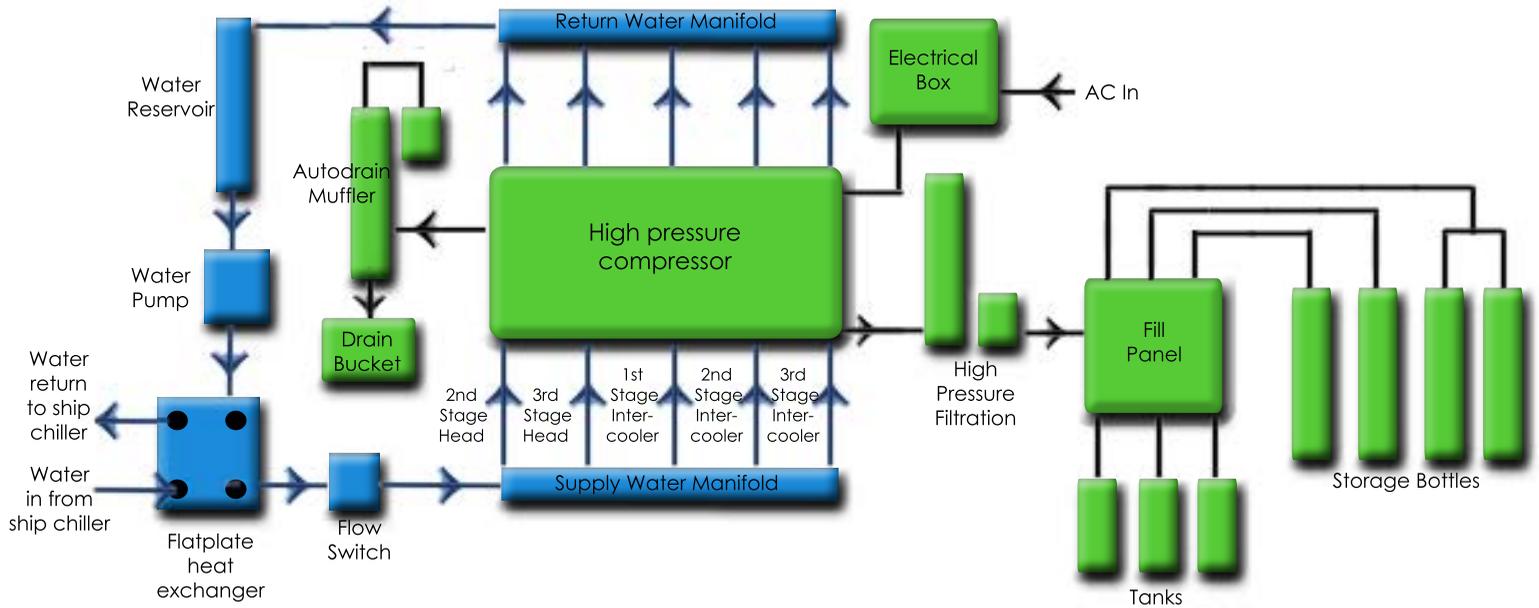
The water cooled compressor utilizes the ships chilled water system to cool the compressors indirectly through a flat plate heat exchanger and closed loop cooling system. This isolates the compressor cooling system from the ships cooling system insuring that any compressor problems cannot affect the ships cooling system. The flat plate heat exchanger is the “firewall” that isolates the central AC from the compressor(s). The flat plate system adds additional components and cost to the system, but you gain confidence that a high pressure air leak cannot affect the ships cooling system.

This isolated system concept provides the ships Engineer or Dive Officer with the confidence that the dive compressor will run reliably and efficiently without impacting the other aspects of the ships operation.

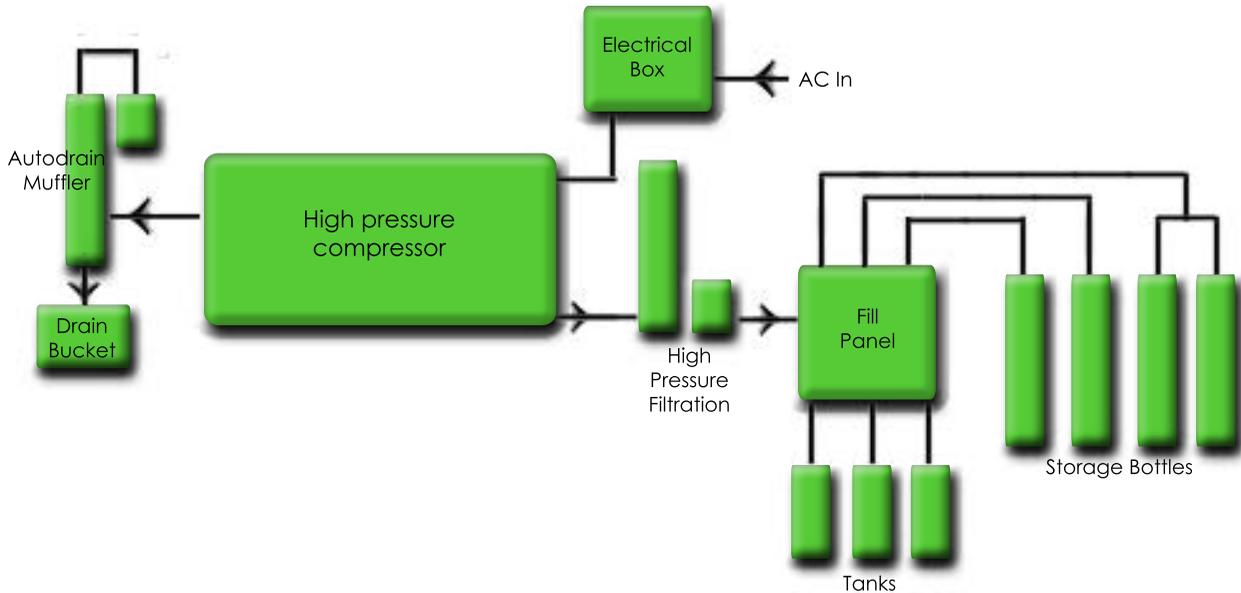
A recent installation of a water cooled compressor on a private yacht was done because a heat problem. The compressor was in the Bosun’s locker and on a hot day the temperature would reach 55 Centigrade in the locker compartment. After only 108 hours, the valves on the HP compressor were destroyed. After the HP compressor was replaced with a water cooled HP compressor, the Bosun’s locker remained at ambient temperature with both HP and LP Nitrox Compressors operating. With the chilled water circulating through the heads and inter coolers, there was virtually no heat coming off the HP compressor. “At 4500 psi you can hold your hand on the HP compressor head and discharge tubing”

Water cooling is the most innovative and safest technology for compressor systems in the marketplace today. Nitrox Solutions has and has successfully developed and constructed this technology and has combined a strategic partnership with Moondog Dive Outfitters and Lauderdale Diver to market these systems to the yachting industry.

WATER-COOLED HIGH PRESSURE COMPRESSOR SYSTEM FLOW SCHEMATIC



AIR-COOLED HIGH PRESSURE COMPRESSOR SYSTEM FLOW SCHEMATIC



“Nitrox Bob” Olson
Nitrox Solutions, Inc
2002 Davis St.
San Leandro, CA 94577
T. 707-292-2331
bob@nitroxtech.com



Greg “Moondog” Mooney
757 SE 17th St.
PMB # 958
Ft. Lauderdale, FL 33316
T. 954-574-4694
moondogdive@aol.com