

that limit standard outlets to 3,000 psi. Thus, Sherwood has introduced a completely new valve.

In conjunction with the super steel tank, Sherwood has introduced its new SVB 6300 T-valve. It is indeed a radical departure from current valves used on American scuba tanks. Sherwood's new valve derives its name from the T-shaped design. The on/off knob is on one side of the T and the regulator connector on the other. The handwheel has a metal insert and is molded of thermoplastic rubber. Its tactile design lets the diver know which way to turn it by feel. Larger passages within the valve allow an airflow increase of 50 percent. The neck of the valve is tilted back on a 45 degree angle, thus providing convenient clearance between the BC harness (or tank pack) and the regulator's first stage. The old style valve O-ring has been eliminated and replaced by a new captured O-ring design. It is known as a 300 bar DIN valve connection.

The DIN valve is not a new idea; it has been tested, produced and used in Europe for many years. DIN is the acronym for German industrial standard, similar to our DOT or ASA. The 300 bar is a pressure measurement expressed in atmospheres. One atmosphere equals 14.7 psi and the 300 bars equal 4,410 psi.

In other words, the new 6300 T-valve is designed to operate up to pressures of 4,400 psi, well over the current maximum operating tank pressure of 3,300 psi. This is an impressively wide safety margin.

What makes it possible for this new T-valve to operate at such high pressures when our present valves cannot? The secret lies in the captured O-ring. The DIN O-ring is mounted on the regulator connector—not the valve. The regulator connector has a one inch long thread that allows the O-ring to be seated and sealed deep within the valve cavity. Furthermore, the O-ring operates as a dynamic O-ring rather than a gasket. There is metal to metal contact between the regulator connector and the valve seat. When the

## GENESIS CYLINDER COMPARISON

The following is a comparison chart of Genesis super steel cylinders vs. standard aluminum cylinders.

	Genesis Standard 80		Genesis Standard 100	
	Alum. 80	Alum. 100	Alum. 80	Alum. 100
Capacity (cu.ft.)	80.0	77.4	102.0	100.0
Working Pressure (psi)	3,500	3,000	3,500	3,300
Weight (lbs.)	27.2	31.7	32.7	40.2
Length w/o valve (inches)	19.8	26.0	23.0	26.2
Diameter (inches)	7.25	7.25	7.25	8.00
Buoyancy (lbs. empty in seawater)	-1.0	+3.9	0	+2.0

pressure is turned on, the O-ring flows into the metal groove and provides a pressure tight seal. More pressure gives a better seal.

A large 1.5 inch diameter knurled ring allows the diver to tighten the regulator/valve connector by hand. No tools are required to connect or disconnect the regulator from the valve.

## NEW REGULATOR CONNECTOR

The new DIN valve connector is designed to fit all present Sherwood regulators. It will also fit other major brands of American designed regulators, plus many European models.

The DIN connector simply replaces the present regulator yoke and yoke screw. This is accomplished by unscrewing the yoke holding nut and screwing the DIN connector onto the high pressure inlet.

Can the DIN valve be adapted to your present regulator? That depends. First, you must be sure you have a regulator first stage that is designed for working pressures of 3,500 psi. Some regulator manufacturers have shifted over to the high pressure standard and their new or current models may be adaptable.

However, you should not attempt to adapt a DIN connector to older regulators that were originally designed for lower working pressures of 2,500 to 3,000 psi. It would be much safer to purchase a new regulator that is specifically designed to work with the Genesis System.

Will you be able to get these super steel tanks filled to 3,500 psi at your local dive store? Sherwood says yes; most Sherwood dealers are already set up to handle the new tank pressure and the DIN valve filling attachment.

The dive stores in the U.S. are in the process of transition. Many have booster pumps attached to their old compressors that allow them to boost air pressure from 2,500 to 3,500 psi or greater.

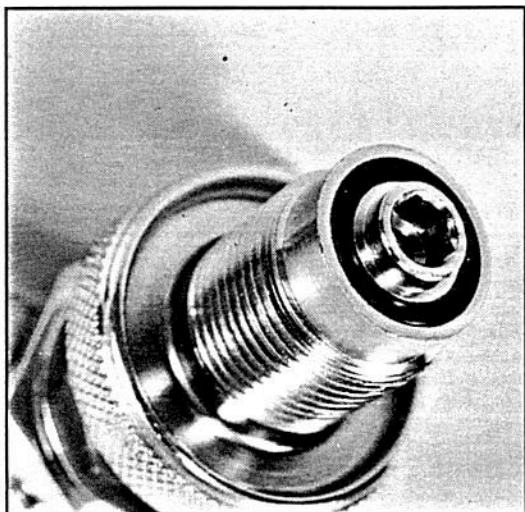
And, many dive stores have either purchased or are purchasing 5,000 psi air compressors and air storage systems. This has become the new standard in air compressor technology.

## CONCLUSION

How much is the new super steel tank technology going to cost? It's not going to be cheap, but the added benefits and convenience of smaller, lighter tanks appear to justify the added cost.

Sherwood's new Genesis 80 cubic foot system retails for \$275, the 102 for \$295. The Genesis System includes the cylinder, tank boot, visual inspection sticker, DIN valve and DIN regulator connector.

For more information and a demonstration of the Genesis System, see your local Sherwood dealer. If you would like to know the location of the nearest dealer in your area contact: Sherwood, 120 Church St., Dept. C, Lockport, NY 14094.



Left: The DIN valve design features a "captured O-ring." Above: The deep seat for the captured O-ring. Right: The T-valve is tilted back on an angle.

