

# MAG2001X

## Top Valve Safety Design

SPEED, POWER AND VERSATILITY

**Magnum's underwater cutting torch displays the very latest features for divers and diving contractors fresh and saltwater settings.**

**Top VALVE:** The MAG2001X™ boasts a 4500 psi operating valve with stainless valve needle, stainless valve spring and ceramic valve ball prevents valve arcing.

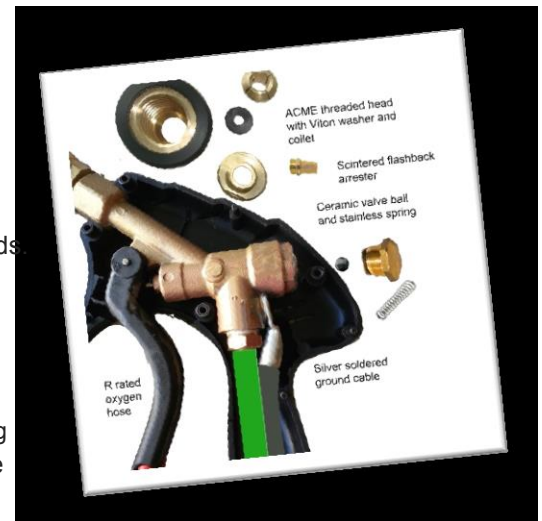
The ceramic valve ball ensures voltage cannot arc between the valve ball and valve needle during ignition.

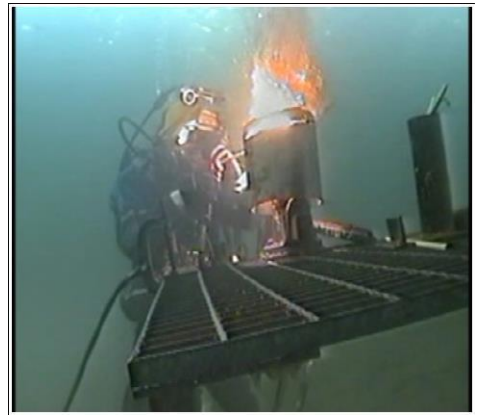
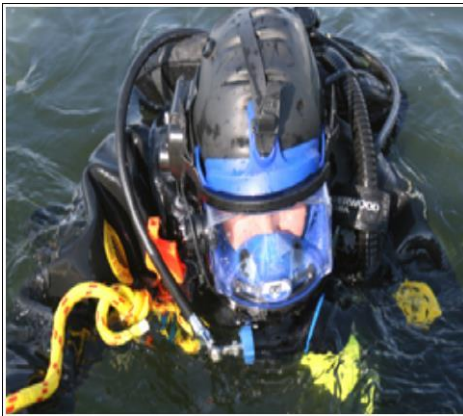
**Acme HEAD:** The torch head boasts acme threads designed to discourage grit seizures in sandy environments. A mere quarter of a turn is sufficient to load and unload cutting rods.

**Flashback prevention:** Flashbacks occur between the torch head and the torch valve when bottom pressure pushes molten material back into the torch and flashes in the presence of excess oxygen. For this reason, bottom valve torches allow flash to travel through the diver's hand on the way to the lower valve. In short, the torch handle can become a dangerous shape charge. The MAG2001X™ torch design displays a valve resting above the diver's hand for ultimate flashback prevention. Moreover, the short nose tube from the torch head to the torch valve on the MAG2001X™ does not allow excess oxygen to accumulate, further providing protection against flashbacks.

**Shock prevention:** A concern among divers is separating the current from the oxygen supply. The MAG2001X™ does not require special torch transition hoses or connections because the oxygen hose connects directly to the torch valve. The voltage carrier bar is silver soldered directly to the valve stem for zero maintenance, preventing loose connections. The flat bar allows for a smaller ergonomic torch handle. At the end of the carrier bar is a lug for convenient connection to the dive cable umbilical.

**Collet:** Inside the head rests a collet with Viton washer for sealing cutting rods and preventing head leaks. A sintered cone sits behind the washer to catch any molten debris. In all, the MAG2001X™ is the safest, most advanced marine cutting torch on the market.





## Zero Maintenance

Merely rinse the MAG2001X™ in fresh water after use and it is ready for the next assignment. No complicated parts or transition connectors make this torch reliable and dependable in challenging underwater conditions.

### MAGNUM'S TOP VALVE TORCH DESIGN

Consider the differences between top valve and bottom valve torch designs for cutting performance and diver safety.



#### **BOTTOM VALVE DESIGN**

*Flashbacks occur between the torch head and the torch valve.*

**PROBLEM:** Bottom valve torch designs like the silhouette to the left allow flashbacks to travel through the diver's hand on the way to the lower torch valve potentially creating a flashback hazard inside the diver's hand. In such a design, should the filters behind the torch collet fail to contain the flash, hot flash travels through torch handle grasped inside the diver's hand. This process takes a fraction of a second at ocean depths.

**SOLUTION:** Top valve torch designs isolate flashbacks above the diver's hand so the torch handle does not become a potential hand grenade. The high valve torch design also displays an offset nose, discouraging high-pressure oxygen bottlenecks experienced with bottom valve designs using oblique valve angles. The abrupt angle cuts performance and can cause erratic rod burns at high-pressure settings.

Decide what you want in your hand when working at depth.

**Demand the best.** Get a top valve torch and not only realize greater cutting and piercing performance, but also experience greater safety due to



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**What's in your hand?**