



## “Position on Veterinary Hyperbaric Chamber Manufacturing and Use”

Hyperbaric chambers have been recognized as viable and practical pieces of medical equipment in both human and animal facilities, however only in their original hard-shelled form.

A standard hyperbaric chamber resembles a capsule bed, usually for one occupant. Patients lie inside these pressurized tubes and breathe 100 percent medical-grade oxygen.

The above statements are certainly true for chambers designed for human use. However, the VHA only recommends the use of hyperbaric chambers designed specifically for use with animal patients. This would qualify as a “vessel,” or “cylinder,” manufactured from carbon or stainless steel to ensure optimal safety and durability for use with such patients, as well as the ability to operate in the sometimes- hectic environment of a veterinary facility. Materials used in human models such as plastics and acrylics are not recommended as optimal or practical by the VHA in a veterinary environment.

The durability of steel chambers can tolerate scratching and chewing by the animal without resulting in crazing (a network of fine cracks), which will require special attention and eventually compromise the integrity of an acrylic cylinder. Additional benefits of an enclosed, steel chamber specifically designed for use with animals are:

- Ability to maintain proper levels of humidity and appropriate temperatures.
- Act as a naturally, neutral conductor of static electricity.
- Resist heating up during pressurization.
- Easily cleaned without the use of special products.
- Provide a safe environment for the animal without the distractions of being exposed in a clear cylinder, leading to patient anxiety or agitation.

As with all chambers and equipment, steel vessels do require proper maintenance and upkeep for optimal performance.

For Equine patients, the only current and viable option is a chamber manufactured using steel. Equine chambers are available as upright stand-alone units, or mobile units on a trailer. Upright chambers should also have appropriate wall padding to protect the chamber and animal from contact with the underlying steel. In addition, some equine chambers utilize 100% oxygen to pressurize the chamber, while other variants pressurize utilizing air and having the horse breath 100% oxygen through a mask. These systems are similar to what are used in multi-place human chambers but present a significant challenge with horses due to the tendency of leaks from the masks.

Pressure vessels should be manufactured according to ASME Boiler and Pressure Vessel Code, Section VIII, Division 1.

Chambers also should have adequate safety features such as pressure relief valves, emergency evacuation buttons, rupture valves and deluge systems.