Compresssed Gas Storage Solutions

Safe high-pressure gas storage options for a wide variety of applications.

Wilco™ high-pressure gas storage vessels store compressed natural gas (CNG) at fueling stations, as well as gases such as nitrogen, oxygen, helium, argon, and more. We offer a range of solutions to meet your specific needs, including spheres, stackable spheres, and modular stackable cylinders, all with a maximum allowable working pressure of 5,500 psi.

All of our gas storage solutions are designed and built to the specifications and requirements of ASME Section VIII, Division 2 and for National Board of Boiler and Pressure Vessel Inspectors registration. Our tanks' structural supports meet and exceed all governmental seismic and wind loading requirements using ASCE 7-16, providing a solution that you can trust to last the test of time. Built-in safety features such as relief valve containment and integral lifting points ensure personnel, asset, and environmental safety.

Documentation

Our qualified team can supply seismic and wind environment calculations that governmental entities in various locales may require. The calculations can be filed with these entities, following local requirements. The support structures' calculations show that the vessels can be safely installed in nearly all locations, with the exception of mounting directly on top of some fault lines.

Compressed Natural Gas

One of the most economical and clean-burning fuel technologies for powering today's vehicles is CNG. The cost per mile for natural gas-powered vehicles is significantly lower than for conventionally fueled vehicles. CNG fueling stations require storage vessels for pre-compressing the natural gas before dispensing to vehicles.

Wilco CNG storage spheres and cylinders are typically set up in groups of three and are used to fill vehicles by cascading the gas pressure down for each of the vessels for more efficient filling.

Other Gases

Nitrogen, oxygen, helium, argon, and other gases used by laboratories, manufacturing facilities, power facilities (including nuclear), and buildings, can be stored in our high-pressure gas storage tanks. The special pressure relief valves have designs unique to the gas being stored.

CNG Storage Specifications

	48-in. sphere	Stackable 48-in. sphere (two stacked vessels)	12-ft cylinders (three vessel assembly)	24-ft cylinders (three vessel assembly)
Storage capacity, 5,500 psi, 70°F (37.9 MPa, 21.1°C)	12,360 scf (350.0 m^3)	24,720 scf (700.0 m^3)	17,650 scf (500.0 m^3)	36,340 scf (1,030.0 m^3)
Storage capacity, 4,500 psi, 70°F (37.9 MPa, 21.1°C)	11,130 scf (315.0 m^3)	24,720 scf (700.0 m^3)	15,880 scf (450.0 m^3)	32,700 scf (926.0 m^3)
Storage capacity, 3,500 psi, 70°F (37.9 MPa, 21.1°C)	9,440 scf (267.0 m^3)	24,720 scf (700.0 m^3)	13,470 scf (381.4 m^3)	27,740 scf (785.5 m^3)
Maximum allowable working pressure	5,500 psi, 120°F (37.9 MPa, 48.9°C)	5,500 psi, 120°F (37.9 MPa, 48.9°C)	5,500 psi, 120°F (37.9 MPa, 48.9°C)	5,500 psi, 120°F (37.9 MPa, 48.9°C)
Minimum design metal temperature	0°F, 5,500 psi (17.8°C, 37.9 MPa)	0°F, 5,500 psi (17.8°C, 37.9 MPa)	20°F, 5,500 psi (29°C, 37.9 MPa)	20°F, 5,500 psi (29°C, 37.9 MPa)
Height (vessel and support)	68.9 in. (1.75 m)	138 in. (3.51 m)	84.0 in. (2.13 m)	84.0 in. (2.13 m)
Total height (with relief valve and lock-out valve)	87.7 in. (2.23 m)	144.1 in. (3.66 m)	85.1 in. (2.16 m)	85.1 in. (2.16 m)
Maximum OD (spheres) / Maximum width (cylinders)	54.5 in. (1.38 m)	54.5 in. (1.38 m)	42 in. (1.07 m)	42 in. (1.07 m)
Weight (empty)	8,060 lb (3,660 kg)	16,520 lb (7,490 kg)	17,300 lb (7,850 kg)	31,000 lb (14,100 kg)
Total weight (loaded with CNG, 5,500 psi, 70°F/37.9 MPa, 21.1°C)	8,570 lb (3,890 kg)	17,450 lb (7,920 kg)	18,040 lb (8,180 kg)	32,510 lb (14,750 kg)