

UP-TO-DATE FILLING STATION TYPES

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A filling station, gas station, fueling station, service station, petrol station, garage, gasbar, petrol pump or petrol bunk (India) is a facility which sells fuel and lubricants for motor vehicles. The most common fuels sold are petrol (gasoline in Canada and U.S.) or diesel fuel.

Fuel dispensers are used to pump petrol (gasoline in Canada and U.S.), diesel, CNG, CGH₂, HCNG, LPG, LH₂, ethanol fuel, biofuels like biodiesel, kerosene, or other types of fuel into vehicles. Fuel dispensers are also known as bowsers (in Australia), petrol pumps (in Commonwealth countries), or gas pumps (in North America).

In recent times, filling stations have also begun to sell butane and have added shops to their primary business; convenience stores are now a familiar sight alongside pumps. With the advent of electric vehicles and rechargeable battery operated cars, "gas stations" or "filling stations" will soon offer charging docks for these cars. In fact, certain stations in the United States and other countries already offer these services. The term "gas station" is mostly used in the Canada and United States, where the fuel is known as "gasoline" or "gas". In some regions of Canada, the term "gas bar" is also frequently used. Elsewhere in the English-speaking world, where the fuel is known as petroleum, the form "petrol station" or "petrol pump" is used. In the United Kingdom and South Africa the single noun garage is still commonly used, even though the petrol station may have no service/maintenance facilities which would justify this description. Similarly, in Australia, the term service station ("servo") describes any petrol station. In Japanese English, it is called a "gasoline stand". In Indian English, it's called a petrol pump or a petrol bunk. In some regions of America and Australia, filling stations often have a mechanic on duty, but this is uncommon in other parts of the world. Number of petrol stations worldwide As of 2007, there were 9,271 petrol stations in the U.K, down from about 18,000 in 1992. The USA had 121,446 filling stations (gas stations) in 2002 according to the Census. In Canada, the number is on the decline to about 14,000. In China, the number is on the decline to about 30,000. In following countries number of stations is rising. Turkey - 12,139 petrol stations (2008) Mexico - 8,200 PS (2008)

Nigeria has perhaps 4,700 PS (2007) South Africa - around 6,500 PS Kenya perhaps has 1,300 PS Tanzania - 1,000 Malawi – 500 China – 30000

History of filling stations: the first places that sold gasoline/petrol were pharmacies, as a side business. In fact, the first gas/petrol station was the city pharmacy in Wiesloch/Germany, where Bertha Benz refilled the tank of the first automobile on its maiden voyage from Mannheim to Pforzheim and back in 1888. Since 2008 a Bertha Benz Memorial Route commemorates this event.

The increase in automobile ownership after Henry Ford started to sell automobiles that the middle class could afford resulted in a greater demand for filling stations. The world's first purpose built gas station was constructed in St. Louis, Missouri in 1905 at 412 S. Theresa Avenue. The second gas station was constructed in 1907 by Standard Oil of California (now Chevron) in Seattle, Washington. Reighard's gas station in Altoona, Pennsylvania claims that it dates from 1909 and is the oldest existing gas station in the United States. Early on, they were known to motorists as "filling stations". Standard Oil began erecting roadside signs of their logo to advertise their filling stations.

A typical filling station: most filling stations are built in a similar manner, with most of the fueling installation underground, pump machines in the forecourt and a point of service

inside a building. Single or multiple fuel tanks of varying sizes, dependent on the needs of the local market, are usually deployed underground. Local regulations and environmental concerns may require a different method, with some stations storing their fuel in container tanks, entrenched surface tanks or unprotected fuel tanks deployed on the surface. Fuel is usually offloaded direct from a tanker truck into the tanks through a separate valve, located on the filling station's perimeter. Fuel from the tanks travels to the dispenser pumps through a system of underground pipes. For every fuel tank, direct access has to be granted at all times. Most tanks can be accessed through a service canal directly from the forecourt.

Older stations tend to use a separate pipe for every kind of available fuel and for every dispenser. Newer stations may employ a single pipe for every dispenser. This pipe houses a number of smaller pipes for the individual fuel types. Fuel tanks, dispenser and nozzles used to fill individual car tanks employ vapor recovery systems, which releases the vapors into the atmosphere through a separate system of pipes. The exhausts are placed as high as possible. A vapor recovery system may be employed at the exhaust pipe. This system collects all the vapors, liquefies them and releases them back into the lowest grade fuel tank available.

The forecourt is the part of a filling station where the fueling operations are commenced. Fuel dispensers are placed on concrete embankments, as a precautionary measure. Additional elements may be employed, including metal barriers. The area around the fuel dispensers has to have a working and efficient drainage system. As fuel is regularly spilled on the ground, as little of it as possible should penetrate into the soil. Drainage canals in the direct vicinity of the fuel pumps drain all fluids into a waste container.

If a filling station allows customers to pay at the register, the data from the dispensers is transmitted wirelessly to the point of sale, usually inside the filling station's building, and fed directly into the station's cash register operating system. The cash register system gives a limited control over the fuel dispenser, and is usually limited to allowing the clerks to turn the pumps on and off, though the process is usually automatic. A separate system is used to monitor the fuel tank's status and quantities of fuel. With sensors directly in the fuel tank, the data is fed to a terminal in the back room, where it can be downloaded or printed out - a standard and regular procedure for larger chains, as this method has proven to be the most reliable and fail-safe. Sometimes this method is bypassed, with the fuel tank data transmitted directly into an external database. Some filling stations also include tire air pump and car wash zones with vacuum cleaners.

Types of filling stations: there are generally two types of filling stations in the US and Canada: premium and discount brands. Filling stations with premium brands sell well-recognized and often international brands of gasoline, including Exxon and its Esso brand, Citgo, Hess, Chevron, Mobil, Shell, Sinclair, BP and Texaco. Non-international premium brands include Petrobras, Petro-Canada, and Pemex. Premium brand stations accept credit cards, often issue their own company cards (a.k.a. fuel cards) and may charge higher prices. Many of them have fully automated pay-at-the-pump facilities. Premium gas stations tend to be highly visible from highway and freeway exits, utilizing tall signs to display their brand logos. Discount brands are often smaller, regional chains or independent stations, offering lower prices on gasoline. Most purchase wholesale gasoline from independent suppliers or from the major petroleum companies.

Modern gas stations have pay-at-the-pump capabilities — in most cases credit, debit, ATM cards, fuel cards and fleet cards are accepted. Occasionally a station will have a pay-at-the-pump-only period per day, when attendants are not present, often at night, and some stations are pay-at-the-pump-only 24 hours a day.