

# A brief history of Airless Spraying

## Major manufacturers:

The history of Airless Spray Machinery is not thoroughly documented, and each manufacturer has their own unique history. From our research we believe Graco, an established pump manufacturer, produced their first airless paint pump in 1957. This pump was a modified pneumatic piston paint transfer pump that had its pumping ratio increased to allow spraying through a nozzle. This was the start in the USA. Graco had the capacity to grow rapidly and it is assumed that they became the leading manufacturer of airless piston pumps worldwide. Today you will find their pumps just about anywhere!

Across the ocean in Germany another company Wagner was already manufacturing hand held spray guns but had not yet made an airless machine. In 1964 they produced their first, an electric diaphragm airless. By 1970 they were the largest manufacturer of airless machinery in Europe.

Over the years these two companies have expanded and bought out numerous smaller manufacturers to emerge as the two largest groups in this field. The simplest way to see this is to look at how many cheaper copies of their equipment can be found in the market.

## Materials-employed:

The abrasive nature of paint causes extreme wear on parts inside the pump and this hard compound is essential to making them work. The process to manufacture of Tungsten Carbide was discovered in the early twentieth century but only became widely used in the 1940's for weapon production, mining and manufacturing and so it follows that this was the perfect material for the job. To explain in simply - we have had numerous customers that have decided to have their own valves and seats machined for their sprayers (normally out of Stainless Steel), most often due to the unhappiness of the relatively high cost of these parts. And as we always expect- the unit operates for a short time and then it stops! Why? Well that stainless steel valve will have been 'chewed' away very rapidly by the high pressure paint and only the correct tungsten-carbide type works.

The other material that helped make airless machines possible is plastic, HDPE and PTFE - Polyethylene & Teflon. Solvent resistant and fairly wear resistant. Without these two materials the seals inside the pumps would not work. To explain this drop a rubber o-ring into solvent thinners or acetone and see what happens. Yes it swells drastically, inside a sprayer it would certainly fail. Teflon and Poly-ethylene were in mass production by the 1950's. Teflon was first invented in 1938 & HDPE in 1933. Without the development of these materials today we may not have had the Spraying machines used today.

The future of Airless Spray is bright; the penetration of this equipment grows every year. These units are friendlier to the environment and more efficient than the older systems of spray. Year by year more painting companies are finding this technology as their solution to being more profitable

(AUTHOR: M GISI 2008)