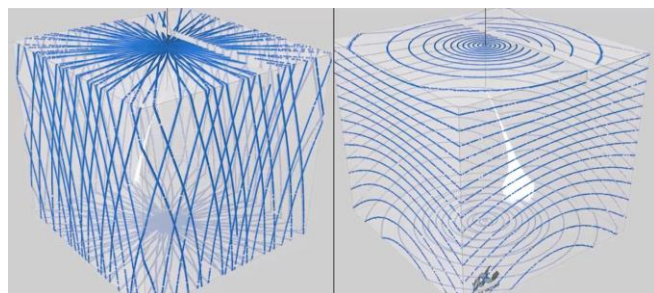


## When two nozzles are better than one

**While single nozzle tank washing machines have their place in the oil tanker industry, Victor Marine stand by their statement that for chemical and product carrier tank cleaning, two nozzles are better than one.**

Victor Marine have been supplying the marine industry for over 60 years and have a wealth of knowledge and experience in providing tank cleaning solutions suitable for VLCC's to smaller product tankers and chemical carriers.

Victor Marine's twin nozzle tank washing machines use a wash pattern of orbital progressive intensity to spray cleaning fluid over the entire surface of the tank to meet IMO Annex II pre-wash requirement standard. The twin nozzle machine can clean a tank in less time than a single nozzle machine, almost by half in fact. The Victor Marine twin nozzle machine completes a full cleaning cycle between 20-45 minutes using a criss-cross wash pattern which is already pre-programmed into the machine. (see image below.) The machines can be used in a fixed or portable application due to the machine mechanics within the main body.



**Twin Nozzle Machine      Single Nozzle Machine**

Even though the single nozzle machine has an advantage when it comes to sector washing used sometimes in the oil tanker industry, a twin nozzle machine makes more sense in the chemical and product tanker market as a full clean is expected between different cargos. The two jet passes per revolution provides higher impact frequency, the product coverage is maintained over the entire tank giving better temperature control and unlike a single jet, will pass over the same areas twice to ensure effective cleaning. Modern chemical ship tanks are

made with limited obstructions making the twin nozzle more relevant as programmability for sector washings is not needed.

Some of the main reasons to choose a twin nozzle machine over single nozzle machines are;

**Fewer wearable parts means simple to service** – Victor Marine machines are manufactured from 316 stainless steel and high grade carbons which ensure low operator intervention even under high pressure, aggressive chemicals and elevated temperatures. A twin nozzle unit design does not need adjustable parts thus has less parts to fail. A stable and balanced twin jet ensures the mechanical forces on the moving parts are lower than a single nozzle unit where gears and shafts are under enormous strain caused by one powerful jet, thereby increasing wear on parts and maintenance requirements.

**Effective Complete Tank Cleaning** – A twin nozzle machine is better at maintaining tank temperature during cleaning with its 360 degree wash pattern. The constant up/down jets and 'double pass' ensures effective cleaning in the shortest possible time.

**Ease of operation** – A twin nozzle machine does not require programming unlike its single nozzle counterpart. Time and effort to pre-set and program the machines on each tank and wash, checking set points and adjustments takes up operator's valuable time. Extensive training is required for the operator to maintain these complex machines. For a twin nozzle machine, simply follow the tank cleaning manual, set the pressures, open the valve and go.

Victor Marine offers a comprehensive shadow drawing service, so that we can help confirm the number, positioning and the size of twin nozzle tank cleaning machines required to help our customers meet their optimum tank cleaning solutions. All Victor Marine tank cleaning machines are fully Type Approved and are assembled and tested in our purpose-built UK factory.