

Cleaning up in a busy market

The primary driver in the tank washing machine technology sector is the need to exert closer control over the cleaning operation

The current full tanker orderbook is keeping suppliers of tank cleaning equipment occupied. The following paragraphs highlight recent developments from amongst several of the leading suppliers of tank cleaning equipment.

Lessor Butterworth

Following the recent concentration of global marine services at its Houston headquarters and London and Singapore satellite offices, the Butterworth Group has continued to consolidate its position as the leading lessor of portable tank cleaning machines to the shipping industry.

"Revenues generated in the marine sector so far in 2003 are up slightly on 2002 levels," states Troy Humphries, Butterworth's project sales/engineering director. "We attribute that to improved marketing techniques and product development which, in turn, are elements of our organic growth profile. These efforts have yielded even bigger benefits in the industrial sector this year, as our sales to this market are substantially higher than last year."

Butterworth manufactured the world's first tank cleaning machine some 75 years ago and today the leasing of portable tank cleaning equipment accounts for 70 per cent of the group's turnover in the marine sector. Sales of such equipment accounts for a further 10 per cent.

Tailored Unitor solutions

Unitor, the ship service specialist, has introduced a new tank and cargo hold cleaning service concept aimed at providing ship operators with tailor-made solutions to their tank cleaning needs.

For tankers, Unitor is able to provide more than 40 quality-assured cleaning and maintenance chemical products stocked at strategic locations in its global supply grid. The range includes tank cleaners particularly well suited to the types of cargo most generally carried in tankers - from crude oil and refined petroleum products to petrochemicals, solvents, vegetable oils, fats and wax.

Amongst the products are the following:

- a) Aquatuff, a heavy-duty alkaline tankcleaner for use in the removal of vegetable and animal oils, greases and wax
- b) Aquabreak PX, a multi-purpose, non-caustic water based cleaning and degreasing agent, free of hydrocarbon solvents
- c) Zinc Coat Conditioner, an organic-based liquid for use in upgrading cargo tanks after carrying leaded gasoline, chlorinated organic solvents or virgin naphtha
- d) Seaclean Plus, a new, low-toxic solvent-based tank cleaner and degreaser with powerful emulsifying properties
- e) Alkleen Liquid, a heavy-duty alkaline cleaner for cleaning cargo tanks following the discharge of drying, semi-hard and non-drying natural oils and fats
- f) Alkleen Safety Liquid a non-caustic version of Alkleen Liquid, suitable for cleaning zinc silicate-coated tanks; and
- g) Metal Brite HD, which removes rust and tarnishes from metal surfaces, including white residue from epoxy coatings as a result of transporting fatty acids.

Based on an analysis of vessel trading patterns, Unitor has identified six strategic ports where large volumes of tank cleaning products are maintained and a further 10 ports where product stocks have also been significantly increased. Stock levels are based on the fact that an average tank cleaning operation requires 2 to 6 tonnes of the most appropriate cleaning product or products.

The new service is backed by support from Unitor's technical representatives and is facilitated by new technologies such as onboard e-procurement. For example, hundreds of ships place orders directly each day through Unitor's MTS e-commerce solution.

Orbitors for Everard

F T Everard has specified Dasic Orbitors for its four 3,800 dwt, diesel-electric coastal product/chemical tankers under construction at the Qingshan shipyard in China.

The stainless steel, twin-nozzle Orbitors can be pre-programmed to carry out a wash pattern in a factory-set time. However, it is also possible to stop the machine after one-quarter, one-half or three-quarters of the full cycle.

The Everard tankers will be engaged in the busy distribution trades in UK and Northern European waters where minimising port turnarounds, including through appropriate advance preparations, is a primary economic consideration. The ability to pre-programme and the automated operation of the Orbitors from Dasic Marine were key factors influencing the choice of cleaning equipment.

The sophisticated Everard newbuildings, which will have a relatively high cubic capacity of 4,500 m³, will begin delivery in third quarter 2004 and follow at three month intervals.

Cleaning control

The cooperation between Saab Rosemount Marine, suppliers of radar-based tank level gauges, and Scanjet, the tank cleaning machine manufacturer, provides tanker operators with an added level of control during tank cleaning operations by means of the WashTrac system.

The two companies, which are both part of the Emerson Process Management Group, point out that the integrated technologies enable quicker port turnarounds leading to reductions in ship operating costs.

The Scanjet WashTrac system enables the operating status of tank cleaning machines to be monitored, operation and prewash data to be logged on a printer and the tank cleaning costs to be calculated. Also, the tank cleaning machines are provided with start/stop alarms

On tankers incorporating WashTrac systems each tank cleaning machine is fitted with a sensor which is connected to the Saab TankRadar gauge provided for that particular tank. The gauge processes the signals coming from the cleaning machines and the status is transferred to the work station.

By connecting additional sensors that measure temperatures and pressures in the tank cleaning lines to the Saab TankRadar system, operators can monitor cleaning fluid pressure, temperature and consumption and are provided with alarm backup.

Under 1995 amendments to the marine Pollution Convention, a prewash has to be performed after the cargo has been discharged. Scanjet points out that with WashTrac it is possible to print out the tank cleaning record, complete with start, stop and total running times. Thus, there should be no doubts about whether the prewash has been performed correctly or not is the issue is raised by an inspector.

Toftejorg on track

Toftejorg Technology has adapted the automated cleaning systems which until now have been dedicated to the cleaning of aboveground oil storage tanks for use in other applications, including rail tank car washing.

The company's proprietary Blabo and MoClean technologies have been re-engineered to enable the automatic cleaning of rail wagons that previously could have taken up to 24 hours to clean manually. The new system is particularly aimed at the thousands of rail tank cars used in Eastern Europe, Russia and Central Asia to transport oil to Black Sea and Baltic Sea loading ports for export.

Toftejorg Technology has recently completed trials of the new automated rail tank car cleaning equipment in conjunction with the national railway association of Kazakhstan. Cleaning times of 30 minutes per wagon were achieved, although with multiple machines in use it is expected that 80-90 cars will be cleaned every 24 hours.