

# Eco-friendly cranes

Product sales can be quite disheartening for niche equipment distributors even in the best of times. However, these specialist products often suffer less when times are hard. Sales of trailer cranes in the UK/Ireland have been 'slow' at best since Oktopus UK first brought in a Klaas crane almost four years ago. Other UK companies snapped up the distribution rights to the two other German trailer crane manufacturers - Böcker and Paus - but the whole trailer crane concept has still to really take off, surprising because of the product's many advantages. C&A investigates.



Light and compact, this Böcker runs on LPG for a reduced carbon footprint



Trailer cranes can work in some very unusual places



Trailer cranes initially gained a foothold in the UK in the specialist cladding panel and glass lifting business where their superior reach compared to the mini crane alternative made them ideal for larger projects. But while mini crane sales have really taken off, trailer cranes remain very rare beasts outside of their home market.

In our trailer crane feature last August, we estimated that there were about 20 operating in the UK, most of them in the rental fleets of the UK distributors Power Lifting Services (Böcker), GGR-Unic (Paus) and Oktopus Contracts (Klaas). Given the limited levels of investment in equipment, this figure has not moved on a great deal.

But why are they not more popular? For some, it is their 'small' 1,500kg maximum lift capacity that clouds how useful these machines can be on site, particularly when so many lifts are below 500kg onto two and three storey roofs. Most trailer cranes have a maximum lift capacity of at least 1,200kg and can lift a minimum of 200kg to a height of at least 25 metres.

The three manufacturers offer a total of about 10 models and despite a few minor differences, all offer similar specifications and performance.

Even the largest crane boasts a total GVW of less than 3.5 tonnes, making it light enough to be towed behind a 4x4 vehicle and providing a very low outrigger ground pressure when set up on site, especially when compared with an All Terrain or Truck mounted crane

that might otherwise have been used. All except the Klaas can move around site under their own power as standard (Klaas offers this as an option) - with the Böcker having the superior drive to the rear axle, the Paus to the front steering wheels.

In spite of the low nominal capacity rating, their load charts are more than enough for most housing site lifts such as roof joists, air conditioning units and chimneys and the excellent reach and working radius means they can often set up in one position for the day and cover several houses. Remote control allows the operator to move to where the load is being placed, giving safer, more accurate and quicker lifts while eliminating a slinger signaller.

"Another requirement that is starting to take effect is the reduced carbon emission of equipment used during construction," says Matt Wood of Böcker distributor Power Lifting Services. "This is because there are plans being introduced so that all new house construction should be carbon neutral by 2016."

"The Böcker AHK 27 that we run in the hire fleet has a 20hp Honda engine running on LPG which emits about 95 percent less carbon than the diesel engine of a 25 tonne or larger AT crane," he explains. "On a site with a few hundred houses, this adds up to saving a large chunk of carbon emissions. The trailer crane is also a lot quieter when working, reducing noise pollution and its light GVW and own hydraulic drive results in very little surface damage."

Many of these excellent features have yet to be appreciated by builders and contractors, who are typically slow to adopt new ways of working and are still content to hire in a much larger, noisier, more polluting and probably more expensive cranes to carry out exactly the same lifts. The small number of trailer cranes in rental fleets also perpetuates this of course as well as some of the low rental rates currently available on small mobile cranes.

Robin Williams of Mini Crane Hire recently purchased an ex-Oktopus, 2007 model Klaas K19/28 (200kg at 19 metres and 28 metre tip height).

This is his first venture into trailer cranes and he is very impressed. One potential problem he did notice early on is the trailer crane's inability to unload heavy items from the trucks before splitting

"The set-up I have is not necessarily cheaper than an AT crane (about £400 per day but it has the ability to access and set up in places an AT cannot and with the remote control it is so easy to place loads very accurately."

Williams loves the Klaas, but would like to improve just one aspect.

"The unit does not have the capability of self drive, which for some might be inconvenient. I would like a machine with drive to the main axle such as a Böcker, but at the moment, because I carry my own forklift, I use this to tow the crane around the site and into position. Without a forklift or alternative on site, this might be a problem."

Oktopus UK (now Oktopus Plant Hire after the company went into administration in June - being purchased by the previous owner

**c&a**

**trailer cranes**



*All trailer cranes in the UK have good up and over reach*



the loads and placing the materials at a high level.

"With only 1,300kg maximum capacity, the Klaas (and other trailer cranes) are limited in what they can unload," says Williams. "My solution is a 6.5 tonne truck with a Moffet forklift on the back, towing the trailer crane behind. With this combination I can be certain of unloading the trucks using the forklift and then placing the materials using the trailer crane."

Williams bought the crane about six months ago and is "mad busy". He also runs a Maeda 305 mini crane but was being asked to do jobs more suited to a crane with more reach.

and director Richard Gould) continues with its trailer crane fleet under Oktopus Contracts Ltd with Andy Hinton-Sheley still head of cranes.

"What I like about the niche trailer cranes is that even during a recession, the demand and rates have remained high - particularly when compared to small mobile crane rental - primarily because they can access areas where it is physically impossible to set up a mobile crane," he says. "The growth of the trailer crane is down to their exposure. Mini cranes took eight or nine years before they took off, trailer cranes have only been around for about four years. If it

wasn't for the economy over the last 18 months our current fleet of seven units would have expanded to about 10."

Oktopus Contracts says it is seeing a growth in its new customer database.

"A high proportion of lifts only require 15 to 20 percent of an AT crane's capacity and this is where the trailer crane scores. We carry out a wide variety of jobs, all two-man, contract lifts the same as a mobile crane," he said.

"One job that showed off its capabilities was a contract to erect a nine storey steel staircase in an atrium area. The crane was installed on a suspended floor and was able to build-up the staircase from ground floor level. No other crane would have been able to access the atrium (through a narrow door opening) and then have the reach to install the staircase. Weight is a big factor - just 3.5 tonnes rather than at least 21 tonnes for a small mobile crane."

All the machines in the Oktopus fleet are the 1,300kg capacity, 28.4 metre tip height Klaas TC 19-28. Klaas also produces a 500kg capacity, 23.7 metre tip height machine - the TC 17-24 - but for the UK market this unit's capacity is too small. Klaas has also added a 30 metre tip height TC30 earlier this year - basically an updated K19-28 - but with a few more metres of reach and remote Safe load indicator.

Paus distributor GGR-Unic - is also heavily involved in the glazing/cladding installation/attachments sector with a large proportion of work coming from that area. Böcker dealer Power Lifting Services on the other hand, has not gone down this route, deciding instead to push the machine's advantages specifically to house builders. Possibly not the best time to target the housing sector, but being first into this area and establishing itself early on may pay dividends when activity increases.



*Paus machines are available from GGR-Unic*

"Rather than follow the other trailer crane distributors, we decided to market the crane specifically to house-builders and have been working with a national house builder (Miller Homes) for almost two years. As far as I know, we are still the only trailer crane hirer with such an agreement," says Wood.

C&A visited a housing site in Gloucestershire to see a Böcker AHK 27 in action. Prior to the company using the trailer cranes it

was regularly hiring in mobile cranes from 15 - 50 tonnes, sometimes as big as 200 tonnes primarily to achieve the required boom length. Now, all the high level lifting is done using Böcker trailer lifts. Power Lifting Services has four trailer cranes in its fleet - the 1,200kg capacity, 27 metre lift height AHK 27 and three 31 metre, 1,500kg capacity AHK 31s. The main difference between the two is that the AHK 27 has a two section boom with the larger machines three sections.

The combination of its boom length, its manually pinned three position jib, compact overall size and manoeuvrability - all Böcker's drive the axles have proved a winning combination for the application. The AHK 27 was set up in one position but could cover several houses.

"The lifts today are roof trusses onto a terrace block of five houses adjacent to a pair of semi detached houses," explains Wood. "By positioning very close to both (too small for an AT) the crane is able to lift the joists onto both buildings without having to move its position."

All the work for the house-builder is carried out under contract lift conditions using a slinger/banksman and the operator - using the remote controls - up on the roof alongside the load as it is being placed.

Böcker's latest machines feature a new chassis with infinitely variable positions on all four outriggers as well as the very latest PLC control so that depending upon the load and the position of the outriggers, the machine automatically calculates its maximum capacity and radius and cuts out when either is reached, prompting the operator to improve the load moment before continuing.

**Paus Starworker**

Paus was the last of the three companies to enter the UK market, with GGR-Unic taking on the distributorship in August 2006. The first model introduced was the 1,200kg capacity Starworker which has a self-propelled chassis driving the front jockey wheels, a nine metre fly jib giving a 25 metre working radius, radio remote control and 360 degree slew.

The Starworker has several lifting attachments including pallet fork, tipping bucket and 450 litres discharge skip, giving increased flexibility allowing companies to reduce costs by investing in a single lifting device. The Paus aluminium pallet fork enables quick and easy application when laying corrugated roof sheets for example. Similarly,

the tile clamp and the tile distributor allow roof work to be executed much more efficiently.

According to GGR Unic, the Starworker has even grabbed the attention of builders working on glazing, plaster work and in-house building because of its multifunctional appeal.

Another useful attachment - also available on the Böcker - is a fully integrated work platform which allows the crane to be used as an aerial lift device as well as a crane, providing another source of revenue for the rental company, while increasing versatility for the end user.

The solar platform was introduced to the Starworker's range of accessories this year, allowing materials such as photo-voltaic/solar panels to be transported safely onto roofs. This is likely to be an application that will grow rapidly in the years ahead as the price of such panels comes down. The fact that a trailer crane can set-up happily in the driveway of most single homes make them perfect cranes for this work.

"The Starworker is an exceptionally versatile piece of equipment," says Graeme Riley, chief executive officer of GGR. "The huge range of attachments available, along with its compact size when stowed transportation makes it tremendously convenient. Its versatility in particular makes it an extremely cost effective option."

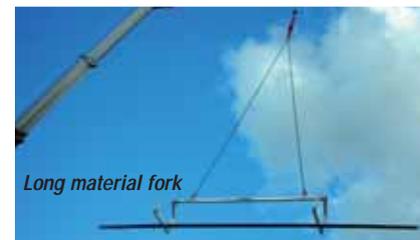
So while the trailer crane is performing very well during the economic downturn, it looks like it

will take a few more years yet before it breaks clear of its niche product status. Its low carbon footprint, ability to access confined areas, low GVW and excellent rental returns should ensure that those that have invested the effort into getting the product to its current position, should be well rewarded when end-users eventually begin to appreciate the advantages. For the end user, perhaps now is the time to look into these handy lifting tools?

Three Paus attachments: -



Tile clamp



Long material fork



Hook chain

Remote controls allow the operator to be ideally positioned during the lift



GGR was able to provide the Royal Bank of Scotland with a Skyworker crane after several other crane companies had to turn the job down. The Skyworker overcame restricted access problems and the need to reach over the top of the building to install the canopy glass.