

POTAIN
by **Manitowoc**



NEW
MDT CCS
City Range

Complete advanced crane control system

Unique Potain Plus functionality improves load chart capacities

Precise, computerized information for start, stop and safety orders

Intuitive start-up reduces commissioning time to 15 minutes

CraneStar Diag delivers remote maintenance monitoring

THE NEXT GENERATION IS HERE.

The new Potain MDT CCS City range introduces greater performance.

> MDT 109 | MDT 139 | MDT 189 | MDT 219

Our new Crane Control System (CCS) enhances your performance on all jobsites with:

- Greater lift performance
- Faster commissioning
- Enhanced ergonomics and operator comfort
- Precision control for all work functions
- Increased profitability

Improve your performance with a Potain MDT CCS City range.
Contact your Potain dealer today.

www.manitowoccranes.com

Manitowoc
Finance

Manitowoc
Crane Care

Pick & carry options

The need to lift, move and place a load has not really changed that much over the past few thousand years. From Stonehenge and the Egyptian pyramids to offshore platforms and oil reactors the basic process is still relatively similar. True modern cranes have made the lifting of larger items much easier, but with very few loads just needing to be lifted and then placed in one small area, the ability to lift, carry and then place a large object into its final resting place is a key requirement for almost every sector of industry - whether it weighs 200kg or 20,000 tonnes.



Over the years, each sector has developed equipment suited to its own specific needs and this is not just limited to 'cranes'. Wherever there is a load that cannot be lifted manually there is generally a specific solution allowing it to be lifted, moved and placed with minimal effort whether the load is being moved within industrial buildings, up staircases, across construction sites or hundreds of miles using the road system, there are products to suit.

Italian pick & carry cranes

Mention a pick & carry crane in Europe and most people these days

immediately think of the type of industrial crane produced by Italian manufacturers such as Ormig, Valla, Galizia, JMG and Jekko. These are usually fixed - non slewing - boom machines designed to carry a suspended load just in front of the machine which features rear wheel steering in order to provide superior manoeuvrability. Over the past decade or two developments have included smaller capacity pedestrian walk-behind units, and a shift to high efficiency direct electric drive. But most are designed for hard, ideally flat surfaces - they struggle when the ground is too rough, soft or uneven - although many of them

Mention a pick & carry crane in Europe and most people immediately think of the type of industrial crane produced by Italian manufacturers such as Valla, Galizia and this Ormig



Road going pick and carry cranes such as this Iron Fairy Sapphire from 1970 were very popular in the UK

can cope with gravelled yards and they have limited boom lengths or forward reach. The American industrial Versa-Lift forklift offers an alternative to this design and has carved out a niche for itself for moving heavy machinery, being compact and having very good lift capacity but ideally needs a good surface to operate on.

When travelling over greater distances with a load or tackling tougher ground conditions, the mobile carry-deck yard crane - such as the Grove Yardboss, Broderson, Shuttlelift etc - offer yet another alternative. These can, where regulations allow, be driven on the road and offer reach and lift height but pick & carry capacity is often well short of its maximum capacity. Compare this to many of the Italian machines which can pick & carry their entire load chart and do not even feature outriggers.

Yet another solution can be found in Australia where the 12 to 25 tonne

articulated Terex-Franca cranes also lift their full charts free on wheels, and where they remain a popular machine for both industrial moving and general crane hire duties. Those familiar with the Iron-Fairy/Jones/Coles Speed Cranes that were popular in the 1960s and 70s and how they were used will understand how the Franna cranes are still used down under. An ancestor of this style of crane can also be found in large numbers in the Indian sub-continent, where tractor-based cranes, such as those built by ACE and JCB are used in the same way. Both are articulated and for those less familiar with them are perceived to lack the stability of a traditional four wheel fixed chassis crane in certain work or travel situations and perhaps because of this they have not found favour outside their own regions.

The UK market is an interesting one as at one time road-going pick & carry cranes such as the

10 to 20 tonne Jones/Iron Fairy and Coles were highly popular and the mainstay of many small to mid-sized crane hirers. To the point that many crane companies still operate veteran models and will spend good money to have them refurbished. For a while it looked as though smaller City-type All Terrain cranes might have filled their place, but given their cost and their popularity was short lived, a combination of engine legislation or rental companies looking to trade up to larger models due to their high cost to buy and run delivering a low return on investment.

Australian Terex-Franna

The Franina crane - named after founder Dave Francis and his daughter Anna - was started in 1980 in Brisbane, Australia. Currently the range comprises of three cranes from 10 to 25 tonnes. Terex acquired Franina in 1999 and it continues to dominate the bottom end of the crane rental market in Australia and in particular the pick & carry sector. Its central articulated frame and no outrigger design provides it with the flexibility to get into tight spaces - although they are longer machines in comparison to the old Iron Fairys. This combined with a high road speed is what still makes them so popular.

Current models include the 15 tonne AT 15-3 with 17.9 metre main boom, the 22 tonne AT-22 with the same boom and the 25 tonne MAC 25-3 with an 18.4 metre main boom. When comparing the Franina AT 15-3 to the Grove Yardboss and older Grove/Coles AP415 and Jones Iron Fairy its advantages and disadvantages are clearly seen. Its maximum capacity and boom length

compare well, however because it does not have outriggers it falls well short when comparing static load charts.

However it can pick & carry its full chart, (the figures given are with the frame articulation at less than 10 degrees - obviously these figures reduce as the articulation angle increases) and given its size and design, it easily has the best pick & carry figures being able to lift more than a tonne at almost 16 metres free on wheels. Although its GVW is similar to the other cranes at 16 tonnes it is much longer at 9.2 metres although the articulation helps with its manoeuvrability. The Franina also has 45 percent gradeability and a road speed of 85kph.

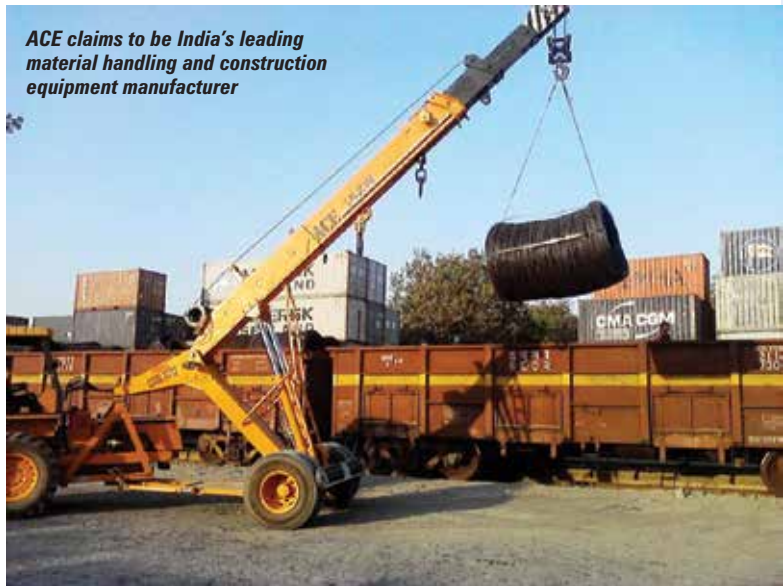
Pick and move cranes

In India the articulated pick and move cranes are manufactured by ACE (Action Construction Equipment) and JCB with its Liftall. Both are very similar looking with what looks like the cab and engine of a backhoe loader or tractor at the rear with the boom and lift cylinders part of the front articulating frame mounted on the front axle. While they look a little 'Heath Robinson', the cranes are very popular and have good lifting duties. While obtaining accurate sales figures is difficult, it is thought that the annual Indian market for this type of crane is more than 6,000 with the 12-14 tonne capacity machines dominating, taking around 65 percent market share.

JCB has a range of four Liftall pick and move cranes - two 12 tonne and two 15 tonne models - with either two, three or four section booms giving lift heights from 8.5,



The Terex Franina continues to dominate the bottom end of the crane rental market in Australia and in particular the pick & carry sector



ACE claims to be India's leading material handling and construction equipment manufacturer

12.5, 13 and 15.2 metres. The largest JCB - the Liftall 1554 - has a maximum capacity of 15 tonnes, a lift height of about 18 metres and 15.2 metres maximum radius. The 56 degrees of articulation either side of centre, while rear axle oscillation allows it to be used on rough terrain. The first section of main boom is slotted with a moveable hook allowing larger capacity lifts closer to the front axle. New areas of growth in India are emerging especially equipment leasing and rental which currently accounts for an estimated three percent of sales. One of the most successful companies in the sector is ACE, which claims to be India's leading material handling and construction

equipment manufacturing company with a leading share of the mobile and tower crane market segments. It also manufactures mobile tower, crawler, truck mounted cranes and loader cranes as well as general construction equipment including backhoe loaders, vibratory rollers, forklifts and tractors. As well as its seven model range of articulated pick & carry cranes ACE has introduced a more modern looking line of six pick & carry cranes with cabs mounted over the front axle. Its largest capacity crane so far is the 16 tonne SX170 which weighs in at 14.9 tonnes and has the option of a three or four section slotted boom and a 29mph maximum road speed. These cranes use commercial truck drivelines and



This low emission Galizia F200E Plus has been used to relocate and install a paper treatment oven in this paper manufacturing plant



JCB has a range of four Liftall pick and move cranes - two 12 tonne and two 15 tonne models.

Experience the Progress.

Mobile cranes from Liebherr.

- Top capacities in all lifting classes
- Long telescopic booms with variable working equipment
- High mobility and short assembly times
- Comprehensive comfort and safety features
- Worldwide customer support by manufacturer



Liebherr-Great Britain Ltd.
Normandy Lane, Stratton Business Park
Biggleswade, SG18 8QB
Phone: +44 1767 60 21 00
E-mail: info.lgb@liebherr.com
www.facebook.com/LiebherrConstruction
www.liebherr.co.uk

LIEBHERR

The Group

ACE has introduced a more modern-looking line of six pick & carry cranes with cabs mounted over the front axle.

are of a more modern design which gives better operator comfort. ACE claims that one reason for its strong market position is its network of 100 after sales support locations supported by 15 regional offices. The company has also set up dealerships in the UAE, Qatar, Iran, Bangladesh, Egypt and South Africa to provide sell and support its equipment in the Middle East Asia, South East Asia and Southern Africa.

Smaller alternatives

Moving loads around a construction site is increasingly dominated by telehandlers and capacities have grown with machines now reaching up to 35/40 tonnes. With a wide variety of attachments available the telehandler is the true 'jack of all trades' able to lift, transport and place loads using a hook, forks or various special attachment including work platforms. (See telehandlers feature page 47)

Pick & carry - or rather 'pick & move' - equipment that does not fit the usual crane mould includes the German-built PowerAttack with skids and from Italy CTE's Pianoplan. The PowerAttack has to be one of the world's most powerful lifting and moving devices for its size and is available at a fraction of the cost of a crane or tow tractor.

Looking more like a powered broom handle it can move loads up to 25 tonnes using unpowered skates/dollies replacing a fork lift truck or crane. The product uses the 'leverage' and 'grip or traction' principal and powered non-marking wheels. It measures just 1,650mm long and has a two stage (250mm) telescoping handle giving a total length of 2,150mm and weighs 75kg with one battery. For larger loads using additional PowerAttacks increases the capacity i.e. two can move 50 tonnes, three 75 tonnes etc.

Available in two versions - the cordless battery powered MTC 25 CC and mains powered MTC 25C - both use a 24 volt synchronous motor with one kW power output providing smooth, continuous forward and reverse functions and emergency stop. The cordless PowerAttack has two 24v/25amp



The PowerAttack.

hour lithium polymer packs giving a variable speed from zero to 20 metres a minute and lasting between two to three hours, depending on work conditions.

Moving on tracks

While there are a few spider cranes that offer pick & carry duties, a growing trend is to use a small tracked carrier such as the Hoeflon's 1.5 tonne D12 and now the larger four tonne capacity D40 (seen on the JT Cranes stand at Vertikal

Days). When paired with a spider crane the combination has the ability to lift, move the load on the tracked carrier - over considerable distances if required - and then using the spider crane again to place the load into its final position.

An unusual variation of this tracked platform is the CTE Pianoplan - which as the name suggests was originally designed to shift large pianos up stairs but is now being used for any bulky item, ranging from safes to lift motors with a maximum weight up to 600kg. Using two electric drive motors on each wheel driving a narrow rubber track, the standard walk-behind unit measures 1,280mm long (there is also a 1,680mm long version) by 540mm wide with a platform length of 1,205mm (1,605mm on the longer version) by 430mm.

Looking more like a powered broom handle it can move loads up to 25 tonnes using unpowered skates/dollies replacing a fork lift truck or crane



Yardboss YB5520-2 comparison chart

Lift Specification	Grove YB5520	Grove AP415	Jones IF15A	ACE 15 XW	Terex-Franna AT 15-3	JCB Liftall 1554
Max. capacity:	18,00kg @ 2.0m	12,000kg @ 3.0m	15,250kg @ 3.0m	16,000kg @ 1.7m	15,000kg @ 1.6m	15,000kg @ 1.6m
Boom length:	5.6m - 16.6m	5.5m - 12.5m	6.8m - 16.5m	15.5m max	5.66m-17.91m (with manual 3rd extension)	15.2m max
Max. fly jib length:	7.6m	5.0m	11.4m	4.0m	2.5m	
Loads @ radius (on outriggers):	6,880kgs @ 6.1m 3,005kgs @ 10.4m	5,160kgs @ 6.0m 2,140kgs @ 10.0m	6,000kgs @ 6.0m 2,900kgs @ 10.0m	6,500kg @ 4.0m * 1,500 @ 11.2m *	4,300kg @ 6.0m no outriggers * 2,150kg @ 10m no outriggers *	3,100kg @ 6.4m no outriggers * 1,700kg @ 10.4m *
Max load @ max radius on main boom:	1,535kgs @ 15.5m	1,950kgs @ 10.5m	1,300kgs @ 15.0m	900kg @ 15.8m *	1,005kg @ 15.86m no outriggers *	800kg @ 15.2m *
Loads @ radius (Pick & Carry, 360 degree):	2,3000kgs @ 6.1m 965kgs @ 10.4m	2,375kgs @ 6.0m 880kgs @ 10.0m	2,300kgs @ 6.0m 750kgs @ 10.0m	6,500kg @ 4.0m * 1,500 @ 11.2m *	4,300kg @ 6.0m no outriggers * 2,150kg @ 10m no outriggers *	3,100kg @ 6.4m no outriggers * 1,700kg @ 10.4m *
Max load @ max radius on main boom:	330kgs @ 15.5m	780kgs @ 10.5m	450kgs @ 12.0m	900kg @ 15.8m *	1,005kg @ 15.86m no outriggers *	800kg @ 15.2m *
Dimensions:						
Road travel dimensions:	2.4m (W) x 7.1m (L) x 2.5m (H)	2.5m (W) x 7.1m (L) x 2.8m (H)	2.4m (W) x 8.4m (L) x 2.6m (H)		2.4m (W) x 9.2m (L) x 3.0 (H)	2.5m (W) x 11.69m (L) x 3.23 (H)
Fully extended outrigger width:	4.2m	4.0m	4.7m	no outriggers	2.4m no outriggers	2.5m no outriggers
Chassis length:	4.6m	5.0m	5.5m		6.13m	6.6m approx
Gross weight:	16,220kg	16,000kg	15,540kg	12,800kg	16,000kg	

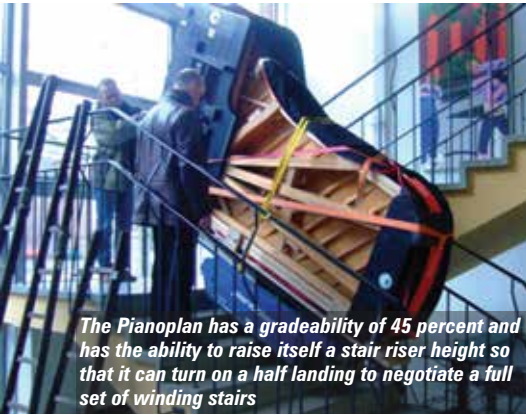
* Less than 10 degrees articulation



An unusual variation of this tracked platform is the CTE Pianoplan



Bulky items ranging from safes to lift motors with a maximum weight up to 600kg can be moved



The Pianoplan has a gradeability of 45 percent and has the ability to raise itself a stair riser height so that it can turn on a half landing to negotiate a full set of winding stairs

The Pianoplan has a gradeability of 45 percent and has the ability to raise itself a stair riser height so that it can turn on a half landing to negotiate a full set of winding stairs.

Back to the beginning...

As mentioned earlier, many mobile crane manufacturers are dropping out of the smaller capacity All Terrain market, and possibly as a result there appears to be an increasing demand for the 10-20 tonne mobile pick & carry cranes. One of the recurring comments we hear regularly from rental companies and end users in the UK is: "If they still built the old Iron Fairy everyone would buy one". This smaller mobile pick and carry crane has been ignored for many years, but may be starting to make a comeback. The ironic aspect is that many crane rental companies have at least one old, small mobile pick & carry crane and if the truth be known, it probably provides the best return on investment of any size and type of crane in the fleet.

The last C&A pick & carry feature two years ago questioned why manufacturers do not seem to be looking to fill this void? However



Jones IF15A

it would appear there is a modern equivalent - even though it is not fully road-going. As can be seen from the chart below, the new Grove Yardboss YB5520 - a multi-purpose carry-deck crane for yards and industrial applications - compares very favourably against the old Grove AP415 and the Jones IF15A. In addition the YB5520 has numerous standard and optional extras which were never available on the older machines. Standard features include area limitation, outrigger monitoring, multiple outrigger positions and a nine tonne capacity carry deck. Optional extras include 4x4 drive and hydraulic deck mounted pulling winch.

In the UK the Yardboss distributor Crowland Cranes has already sold several units into the petrochemical and mining sectors which are used for routine maintenance tasks. However the fully CE rated YB5520 cannot be compared to the traditional Ormig/Valla/Galizia cranes when it comes to pick & carry, as these machines are designed to travel with suspended loads. For example the 16 tonne Ormig 16TM

The new Grove Yardboss compares very favourably against the old Grove AP415 and the Jones IF15A



will travel with its maximum 16 tonne load at 800mm from its front bumper, as opposed to the 18 tonne Yardboss YB5520 that can only manage six tonnes.

New entrant

A new American entrant to the pick & carry market arrived early last year in the form of Bailey Cranes. Founded by previous owner of Man Lift Manufacturing, Jeff Bailey in 2013 it launched a new hybrid carry deck crane - the eight ton BC18 - and the Brandon, a new glass handler/super-compact telehandler/mini crane which offers a seven metre tip height on its main boom, with over eight metres when fitted with short luffing jib. The Milwaukee-based company now has four carry deck models from the 4.1 tonne BC9 to the 16.3 tonnes BC36 giving lift heights up to 24 metres.

The introduction of heavy duty telehandlers with lift capacities up to 40 tonnes gives users another option when moving items around the construction, industrial or mining site.

Hopefully we have given a glimpse of the wide variety of pick & carry equipment available, with selection really depending on the size, weight and distance that the load needs to be moved, and of course how often. Last month we covered heavy duty transportation moving large items over longer distances using specific

trailers and SPMTs etc. For smaller items there are now many types of equipment that can carry out the job - some may be very small and insignificant looking, but they can be king in really restricted spaces.



The two tonne capacity Jekko MPK20W



Broderson IC-80



A 25 tonne Ormig



Two City cranes and telhandler install a cylinder



A new American entrant to the pick & carry market arrived early last year in the form of Bailey Cranes

Moving industry

The range of equipment needed to offer a comprehensive industrial lifting service is wide. Bryn Thomas Industrial Services (BTIS) based in Flint, North Wales has purchased some unusual machines in a bid to cover the various challenges of the market, including a Versa-Lift and Terex-Franna articulated cranes. Mark Darwin visited the company to find out more.

Bryn Thomas Cranes was founded in 1979 at its current location in North Wales. The holding company is still owned by Bryn Thomas with his three sons - Janus, Dylan and Daniel - running the various group companies Bryn Thomas Cranes, BJW Cranes (acquired 2012), Rail and BTIS respectively. Daniels two sons Ethan and Alfie also want to follow in the footsteps of their father and join the business. The industrial services division was formed in 2011.

BTIS director Daniel Thomas said: "We are involved in a three year rolling contract with two of the largest manufacturing plants in the North West. The latest project was to install around 400 heavy machines for a new production line. We had to offload the equipment arriving from Germany and install it in its final position in the factory. As well as using a Franna crane we hired in a Versa-Lift machine and rapidly realised its potential for this type of work. The main problem with the Versa-Lift however is the length of time for delivery from the

manufacturer- currently over 12 months. Our 27.2 tonne capacity, remote control Versa-Lift 60/40 gets a good day rate (around £1,200 depending on length of hire with operator and transport included) relative to its purchase price. Next year we plan to add another, with the target to have at least one Versa-Lift based in each depot."

In addition to its base in Flint, the company has branches in Newcastle, Scunthorpe - the ex BJW Crane depot - and Manchester and employs around 70 staff, including crane operators, engineers, sales reps and office staff.

"The group has a history of having different equipment," says Thomas. "We were the first in the UK to take the 450 tonne Grove GMK 7450 in 2004 and a second one was added in 2008. We also bought one of the first Marchetti MTK 35 truck cranes with 32 metre boom last year and have added two new 14 tonne Franna articulated pick & carry cranes with a 7.5 tonne Rhino hook."

As part of a group it can draw on the services of the fleet of 33 cranes with capacities up to 450 tonnes.

Next year BTIS plans to add another Versa-Lift and the target is to have at least one in each depot



Fitted with the optional remote control, BTIS' 27.2 tonne capacity, Versa-Lift 60/40 has been an excellent buy



Currently the group has a fleet of 33 cranes with capacities up to 450 tonnes

The group's aim is to have a fleet of 12 cranes up to 100 tonnes capacity in each depot, with a view to expand to a fleet of 50 cranes in the next three years. Supporting the four depots will be its two large cranes placed centrally to the depot network. The fleet also includes four Spierings mobile tower cranes - one, five axle unit and three six axle units which will be added to when it takes delivery of a new six axle unit in February 2016.

The current fleet is a mix, mainly Liebherr and Grove but also includes 35 tonne Terex and 45, 50 and 70 tonne Tadanos. Also in its fleet are 40 tonne Terex City cranes with 1.2 metre runner extension if required, handy for some industrial lifting applications.

Location location location

"We are quite blessed with all the industrial work in the area around our head office, with many factories, the Ellesmere Port area and all the associated petrochemical work. Most places are busy so hire rates are good at the moment, although they should be higher based on

the cost of the equipment and the risks involved. However BTIS is in the process of expanding its fleet and maybe looking into possibly purchasing some spider cranes."

The day of the visit, there were no cranes in the yard - a good sign - and the company has a good number of long term contracts that make use of its full range of services which include machinery transport, installation and removals, specialist transport and heavy haulage, lift and shift, factory locations and gym equipment relocation, providing it with a solid base on which to build.



Bryn Thomas has a fleet of 33 cranes with capacities up to 450 tonnes and has had two 14 tonne Franna pick & carry cranes.



600 TONS. 8 AXLES. NO BOOM SUSPENSION.

Facts that speak for themselves.

Now you can run your crane rental business more efficiently than ever – with the new ATF 600G-8 from TADANO.

- TADANO Triple-Boom System – hoisting without a boom suspension: minimal transport cost, short setup time, and small tail swing radius
- Asymmetrical Outrigger Base Control: heavier loads with limited support base area
- AML crane control: further developed for even more safety and ease of use
- Two-engine concept: performance-optimized engine in the superstructure saves fuel during crane operation

For more about the highlights of the unique TADANO 8-axle crane, please visit www.ATF600G-8.com/en.