

**Balfour Beatty**  
Plant & Fleet Services

# 0845 602 7064

Your sustainable partner of choice.  
Solving your problems and making it easy.



## Crane Services



A section from our full **Product Catalogue**

Please visit [www.bbpf.com](http://www.bbpf.com) to view our full service offering





## SECTION 6: Crane Services



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### Introduction

Our Crane Services team offer lifting solutions utilising our full site planning and risk assessment package. We have a wide range of tower cranes for hire.

We operate from strategically located national depots giving us full coverage across the UK.

Our recent intensive investment programme has ensured a modern and growing fleet of cranes with very strong relationships established with industry leading manufacturers including Liebherr, Potain and Comedil.

### Our Capabilities in Crane Operations

We have over 50 years of experience in the safe and efficient operation of tower cranes both in the Civil Engineering and the Construction industry as well as within the Balfour Beatty Group. Our on site engineering is backed by fully equipped repair and maintenance workshops based in Derby.

During 2007 through a process of collaboration with the internal users, we led the development of a new Balfour Beatty "Safe Tower Crane Operations Manual". This comprehensive document has been commended as best practice by the Health & Safety Executive and includes guidance on all aspects of tower crane use from initial pre-tender planning to erection, use and decommissioning. Many subjects are covered including:

- "Anti Collision" measures on multiple crane sites, including S.M.I.E. (Société de Matériel Industriel et d'Équipement)
- "Anti intruder" vandalism precautions
- Non Destructive Testing (NDT) of the main structural elements of the cranes
- Standard emergency rescue procedures

In 2008/9 our crane operating procedures were used as a basis for a global "Best Practice" guide in the use and operation of Tower Cranes and a new Group operating standard for lifting operations.

We fully appreciate that reliability is the key to a successful hire and we pride ourselves on our rigorous inspection, service and maintenance regime. The risk of downtime is minimised by a service tailored to prevent disruption to our customers planned workload.

Our team are available to work with you to provide a Zero Harm working environment for lifting on your site.

### Zero Harm



Since 2000, there have been eight people killed and many more injured in Tower Crane accidents (outside of Balfour Beatty) in the UK. Balfour Beatty Plant & Fleet Services can assure you that safety is at the forefront of their considerations. The operation of our tower crane fleet includes the following safety assurance benefits:

- We have a modern fleet of cranes, average age of less than five years (compared with the industry average of over ten years)
- Our full repair and maintenance service includes a 60 day service intervention going beyond the industry standard (90 days)
- We have developed a comprehensive Safe Tower Crane Operations Manual which the HSE have reviewed and are using as a working document
- We mandate anti collision and zoning measures (including S.M.I.E.) on all multi crane sites and where cranes over-sail public or third party areas
- We employ effective anti intruder and anti vandalism precautions
- All Balfour Beatty Plant & Fleet Services tower cranes have Crane Cams fitted as standard; this system increases safety by eliminating "blind" lifts



- We carry out Non Destructive Testing (NDT) of the main structural elements of any crane over ten years of age and mast bolts over seven years old
- We have full emergency rescue procedures in place with bespoke specialist equipment deployed on every crane with all related personnel trained in its use
- We employ a comprehensive regime to ensure the competence and training of our teams
- We will work with you to develop a safe system of work
- Tower crane appreciation training available

### Sustainability

Our crane operation takes sustainability into consideration throughout its operation. A few key areas we are currently concentrating on are outlined below:

- More than 95% of a crane is recyclable
- Regular non destructive testing of welds to extend the life of the asset
- We are in regular contact with manufacturers over improving the electrical efficiency of the crane components
- We also work with the manufacturers design team to enhance crane's ability to be transported

### Method Statements, Planning and Risk Assessment

We offer all our customers a planning, risk assessment and consultancy service for any cranes in use on your sites. We have a trained, competent and committed Zero Harm team to meet all your needs.

We care for the safety and welfare of our employees and all those who could be affected by our operations. Where we provide the full lifting solution to your site we produce and follow detailed risk assessments and method statements. Our Appointed Persons will

provide you with advice and plan lifting operations. We have extensive experience in working around Railway Infrastructure, Underground, Petrochemical and Nuclear and Power Generation establishments.

Provision of good quality operators is always a concern for any site. Our growing core of directly employed operators and slingers/banksmen is supplemented through a partnership with a professional specialist industry service provider such that we can quickly react to any fluctuations in demand.

### Installation and Dismantling

We will work with you on timescales for the installation and dismantling of the crane and can provide you with advice on road closures and co-ordinating of events. We take the following into consideration prior to undertaking any form of erection and dismantling:

- Mobile crange arrangements
- Fall protection and falling object protection
- Communication
- Weather
- Contingency arrangements
- Thorough examination and test
- Commissioning
- Manufacturers information (instruction manual)
- Exclusion zones
- Always done in daylight hours
- Planning to allow sufficient time
- Discussions with permanent and temporary works designers
- Suitable base
- Risk assessment
- Method statement
- Revisions
- Transport Requirements
- Access
- Proximity Hazards



## SECTION 6: Crane Services



Crane Cam View



Crane Operators View

### Crane Cam





**Crane Cam View**



**Crane Operators View**

The Crane Cam is a new piece of critical Zero Harm equipment to help keep sites safe and to achieve our goal of Zero Harm. Introduced by our Safe Lifts & Safe Zones Fatal Risk Task Group, the Crane Cam eliminates the issues of blind lifting, one of the biggest risks associated with tower cranes.

Blind lifting is a common occurrence on congested sites, where the operator is purely in the hands of the voice communications given by the banksman.

### Benefits

- The introduction of the camera along with voice commands from banksman dramatically reduces the risks associated with blind lifting and increases the cranes productivity
- Video footage can be recorded and also accessed remotely through a web link for use in incident investigation, planning and training
- Camera allows the operator to zoom in on areas for clarity
- Associated benefits - security on site, visual site progress updates and promotes safe behaviour on site



**Crane Cams eliminate the issue of blind lifting and keep our sites safe.**



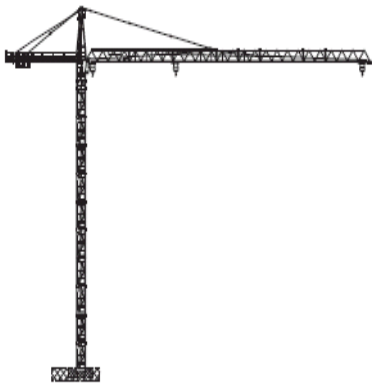
## SECTION 6: Crane Services



### Branding

All of our cranes are branded in the Balfour Beatty blue and white to match your site's corporate image. In addition we are able to provide illuminated sign boxes and additional lighting to highlight the brand, if specified before the crane is erected. If required we have the facilities to repaint our cranes in other colours to suit your requirements.

### Types of cranes we provide



### "A" Frame – (Saddle Jib)

- Jib supported by tie bars or ropes
- A frame on top of tower
- Increased height
- Tower is fixed
- Slewing ring near the top
- Jib slews around the vertical axis of the tower

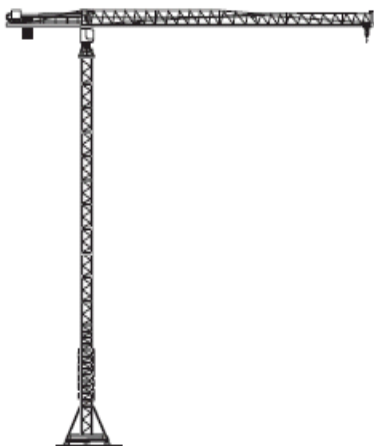
Rating



5



5



### Flat Top – (Saddle Jib)

- No bars or ropes connected to an A frame
- Reduced overall height
- Good for sites with other cranes
- Reduced transport costs
- Reduced installation and dismantling time

Rating



5



5



## Luffing

- Jib angle can be changed
- A frame supporting jib by tie bars or ropes
- Radius can be changed by increasing or decreasing jib angle
- Designed for work on particularly high buildings or in extremely restricted spaces
- Can avoid any obstruction and slew through 360° under load
- Advantageous in operations on tight sites-small slewing radii and raised jib angles of 15° to 70°

Rating



5



5



## Self – Erecting

- Slewing ring is situated at the bottom of the tower
- Whole tower and jib assembly turns
- Can not be attached to a fixed structure
- Limited jib height and length
- Easy installation due to its adjustable-spread chassis
- Transport adapted to the type of site

Rating



5



5





## SECTION 6: Crane Services



### Balfour Beatty Crane Fleet

Our crane fleet consists of 20 cranes of varying types and capacities from three quality manufacturers; Liebherr, Comedil and Potain.

The table below shows the types and capacities of the cranes we have in our fleet indicating their maximum hook height, radius and lifting capacity. If you require hook heights greater than those shown in the table below then we will be happy to discuss this in detail with the manufacturer and advise you accordingly.

Crane Type	Max Hook Height m	Max Jib Radius m	Max Lifting Capacity Kg	Lifting Capacity at Max Radius Kg		
<b>Saddle Jib</b>						
Potain MD 125 B	54.2	57.5	6,000	1,400	5	5
Liebherr 200 ECH	68.1	60	10,000	2,400	5	5
Liebherr 250 ECB Litronic Flat Top *	87.1	70	12,000	2,000*	5	5
Liebherr 280 ECH Litronic *	86.8	75	12,000	2,500*	5	5
<b>Luffing Jib</b>						
Liebherr 125 HCL Litronic *	82.3	50	12,000	1,900**	5	5
Comedil CTL 400	72.4	60	23,290	4,900	5	5
Comedil CTL 430	66.4	60	24,000	5,500	5	5
Comedil CTL 630	66.4	60	32,000	9,000	5	5
<b>Self Erecting Tower Cranes</b>						
Potain IGO 36	22.0	32	4,000	1,100	5	5
Potain IGO 50	23.2	40	4,000	1,100	5	5

The above table is provided as a quick guide. For a more detailed discussion on the cranes duties and capabilities please contact 0845 602 7064.

#### \*What are Litronic Cranes?

Litronic is a system developed by Liebherr whereby the speed of a lifting operation is slowed down to such an extent the crane is allowed to lift approximately 20% more while operating in this mode.



## Remote Monitoring

We provide remote monitoring software (Liebherr modular concept) and have the Electronic Monitor System (EMS) as standard. The machine data capture system records data on crane load, switch on time, movements and load movements. The information can be used in two ways, the productivity of the crane can be remotely monitored or maintenance issues can be remotely monitored by dialling into a sim card located in the crane's computer logic controller. Reports can be generated or faults rectified by dialling into the cranes computer. This can save on downtime.

TOWER CRANE POWER SUPPLY REQUIREMENTS	Rated Power Including extras	Starting Capacity	Rated Current	Starting Current	Generator Size (minimum)	Breaker Required at Base (Static)		
<b>COMEDIL</b>								
CTL 400A	263Kva	325Kva	397A	442A	400Kva	1off @ 400a	5	5
CTL 430-24 HD23	251kva	325Kva	355A	435A	400Kva	1off @ 400a	5	5
CTL 630	297Kva	350Kva	457A	502A	445Kva	1off @ 500a	5	5
<b>LIEBHERR</b>								
125 HC-L	99Kva	106Kva	136A	147A	160Kva	2off @ 125a	5	5
200 EC-H	93Kva	177Kva	132A	260A	200Kva	1off @ 180a	5	5
250 EC-B	91Kva	106Kva	124A	138A	225Kva	1off @ 125a	5	5
280 EC-H	95Kva	111Kva	129A	143A	225Kva	1off @ 125a	5	5
<b>POTAIN</b>								
MD 125B	54Kva	64Kva	71A	117A	100Kva	1off @ 100a	5	5

1. Figures are based on information supplied by crane manufacturers.
2. 5 Kva has been included to allow for extras such as:
  - Aircraft warning lights
  - Illuminated Signs
  - Anemometer
3. Values given are for static cranes erected to standard heights. Greater heights and travelling cranes will have different requirements.
4. Any other additional electrical items installed on the crane (e.g. floodlights, tower landing lights, etc) must have independent supply.
5. The generator must not be sited more than 10m from the crane base.
6. Breakers fitted at the crane base must be motor rated and equipped with a 300-500ma variable trip.



## SECTION 6: Crane Services



### Maintenance and Repair

We undertake planned preventative maintenance every 60 days which prevents problems during operation. We will plan with you to minimise any downtime during maintenance. In the unlikely event that any issue arises, we have a rapid response team of Service Engineers that are available seven days a week to offer advice and react to breakdowns.

### Under hook lifting tackle and accessories

Skips	Weekly Hire Rate		
500ltr. Muck Tipping skip	£24.00	5	5
750/800ltr. Muck Tipping skip	£28.00	5	5
1000ltr. Muck Tipping skip	£35.00	5	5
1500ltr. Muck Tipping skip	£40.00	5	5
500ltr. Dual/twin flow concrete skip	£30.00	5	5
750ltr. Dual/twin flow concrete skip	£38.00	5	5
1000ltr. Dual/twin flow concrete skip	£44.00	5	5
500ltr. Conical concrete skip	£30.00	5	5
750ltr. Conical concrete skip	£40.00	5	5
1000ltr. Conical concrete skip	£45.00	5	5
750ltr. Gear gate concrete skip	£48.00	5	5
1000ltr. Gear gate concrete skip	£55.00	5	5
1500ltr. Gear gate concrete skip	£60.00	5	5
2000ltr. Gear gate concrete skip	£75.00	5	5
1000ltr. Boat skip	£40.00	5	5
2000ltr. Boat skip	£65.00	5	5

Lifting Equipment	Weekly Hire Rate		
1-Leg drop chain, 1m 3.15t SWL 10mm c/w safety hooks	£9.00	5	5
2-Leg chain, 6m 4.25t SWL 10mm c/w safety hooks	£20.00	5	5
4-Leg chain, 5/6m 3.15t SWL 7mm c/w safety hooks	£24.00	5	5
4-Leg chain, 5/6m 6.7t SWL 10mm c/w safety hooks	£30.00	5	5
4-Leg chain, 5/6m 11.2t SWL 13mm c/w safety hooks	£45.00	5	5
2000kg Crane forks c/w net .00	£39.00	5	5
Block grab c/w net	£39.00	5	5
350ltr. Mortar bins	£25.00	5	5
Man riding cages	£60.00	5	5
Stretcher cages	£55.00	5	5

**Please note** – We have more lifting accessories available for hire to suit your specific lifting operation. Please contact us on **0845 602 7064** to discuss your requirements.



### Zero Harm features available on all cranes



ZERO HARM

- CCTV Jib/Hook mounted cameras (Crane Cam)
- 50 years experience
- Quality and reliable cranes
- Rigorous testing and inspection regime
- Consultancy service
- Service and breakdown cover
- Tower Crane Operating Manual
- SMIE Anti zoning software fitted to all cranes
- Average crane age of less than five years
- Generator provision
- Lifting tackle available
- Tower crane appreciation course available (see our Plant Operator Training section)
- Member of CPA Tower Crane Interest Group
- Average age of four years
- Hands free radio communications available

### Services we provide

- Site Visits
- Crane in corporate colours
- Road closure advice
- Generator provision
- Installation and testing
- Provision of Competent Operators and Slinger/ Banksmen
- Tower Crane Co-ordinator and Appointed Person
- Full range of lifting tackle and accessories
- Service and maintenance 24/7
- Dismantle and Demobilisation
- Top Quality European Cranes
- Litronic Liebherr Cranes
- SMIE fitted to all cranes
- Anti zoning software
- Remote monitoring software
- Tower Crane Manual
- CCTV Remote access (Crane Cam)



# Fire Protection Services



The complete fire management service



#### SUSTAINABILITY

**We ensure that all un-serviced fire extinguishers are recycled into other materials/products**

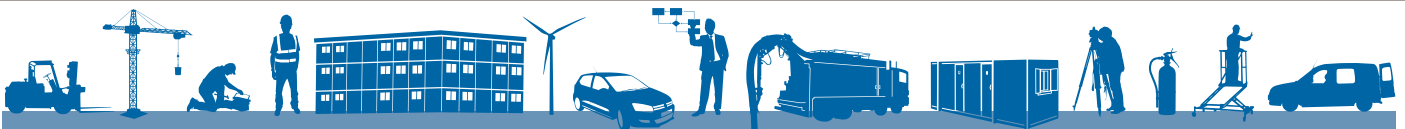
...a collective responsibility

**Our Fire Protection Services Team provides a complete management facility including consultancy, installation and maintenance on a range of fire safety equipment.**

We are BAFE certified (British Approvals for Fire Equipment) and are also accredited as an ISO 9001:2000 so you can be assured that the quality of fire protection is fit for purpose and is installed and maintained by fully competent people. Our team have a wealth of experience and knowledge in the fire safety industry and can provide the skills and understanding to the solution you require.

#### We offer the following services:

- Fire extinguishers/ Fire hose reels
- Sprinkler systems
- Supply and installation of fire alarm systems
- Electrical testing services
- Emergency lighting service
- Full range of fire and safety signs
- Fire risk assessments
- Dry riser and hydrant testing
- Fire safety training
- Call out service
- Corporate fire management review
- Fire safety management systems



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