



Brigade

You're safer with us

Safety Systems
**Construction
Machines**

2024

Brigade

Safety in the Construction Industry.



Construction drivers encounter numerous risks, such as poor visibility in harsh conditions and blind spots during vehicle manoeuvres. These challenges can become critical when adhering to tight deadlines as any delay caused by incidents can extend the project timeline and escalate costs.

Additionally, the intense noise levels on construction sites can significantly impact both workers and drivers, impairing their ability to operate machinery effectively and navigate the site safely.

Common problems associated with these machines include:



Construction workers operating around the vehicle



Slow moving vehicles and machinery



Congested sites



Rough terrain and environment



Manoeuvring in and around tight spaces as well as residential areas

How Brigade can help you

By working in partnership to understand your safety concerns, Brigade's team strive to bring innovative answers to the marketplace. By making a small investment in Brigade's safety solutions you can achieve clearly defined and measurable benefits as shown below:

- All round vehicle visibility for safer, more efficient operation
- Reduced incidents
- Reduced insurance premiums
- Reduced vehicle downtime due to accidents
- Meet health and safety requirements
- Peace of mind for management and workers
- Strengthen your company's reputation

Why Brigade?

- Pioneers in Vehicle Safety since 1976
- Brigade is a partner with OEMs specialising in Construction Vehicles
- Brigade equipment is in use across the Construction Industry worldwide
- Rigorous and comprehensive testing ensure Brigade products are of a high standard
- 2,3,5 and lifetime warranties on Brigade products

1 Backeye®360



2 AI360



3 AI Pedestrian Detection Camera



4 Elite AHD CMS



5 Radar 77ghz



6 Warning Alarms





Backeye®360

An intelligent camera monitor system designed to assist low-speed maneuvering by providing the driver with a complete surround view of the vehicle in real-time.

Backeye®360 technology works with four ultra-wide-angle cameras each covering one full side of the vehicle with a viewing angle of over 180°. High-mounted on the front, rear, and sides, the calibrated cameras capture all of the surrounding areas including the blind spots of the vehicle or machine.

The four live images are simultaneously sent to an electronic control unit (ECU) where they are instantly processed, combined, blended, and stitched. The distortion from the wide-angle camera lens is also corrected before delivering a clear, single, smooth, real-time image onto the driver's monitor.



Eliminate Blind Spots

Calibrated cameras capture all areas including blind spots.



Real-time Views

Live pictures shown on the monitor without time lag.



Custom Views

Monitor Views can be tailored to the work environment of the vehicle.



Configurable Setup

Backeye®360 will work on most rigid vehicles, large or small.



Versatile

Available in both standard and AI versions

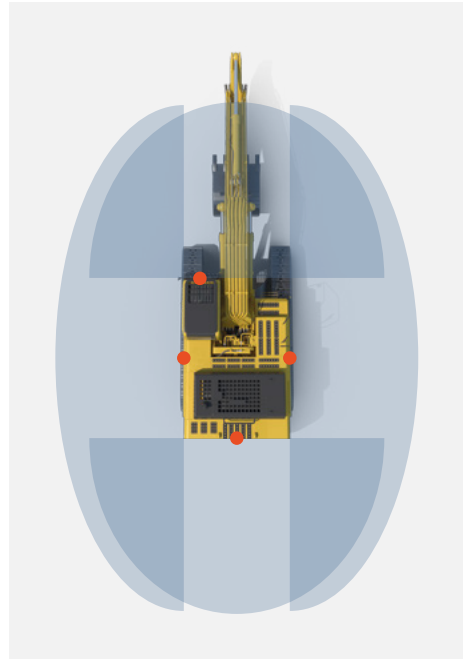
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BN360-300 AHD 360° Camera System

Part Number: 5800A

- 4 camera system
- 720p HD 360° bird's eye image
- 15 different monitor view modes
- Compatible with Brigade's mobile recording systems





AI Intelligent Detection

AI Cameras are a new generation of active blind-spot detection systems.

Using Artificial Intelligence, the cameras detect and recognise the human form within the pre-defined detection zone and reliably warn the driver visually and/or audibly before a possible collision occurs. Image processing is built-in to the camera, meaning no other hardware is required.



Pedestrian Detection

Uses AI to recognise and alert the driver to vulnerable road users all around the vehicle. (Only 360 AI)



High-Definition Image

The 1080p camera delivers clear and sharp images, improving driver visibility.



Brigade Compatible

Interfaces with all Brigade HD monitors and MDR recorders.



Efficient Alerts

Instant audible and visual alerts via the monitor when a vulnerable road user is detected.

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VBV-2220C AI-D04 Front-facing AI Camera – normal view

Part Number: 7321

- High Definition AHD 1080p
- Recognises and alerts the driver to people in the front blind-spot
- Front on road: Maximum 1.4m(L) x 3.3m(W)
- Zero seconds boot time when using Brigade adaptor cable

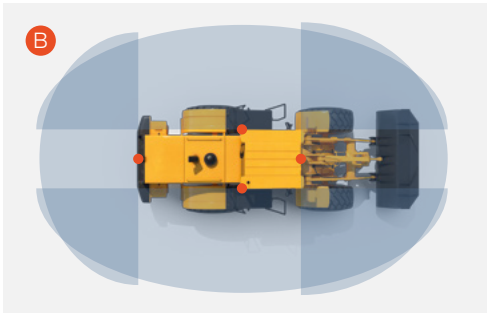
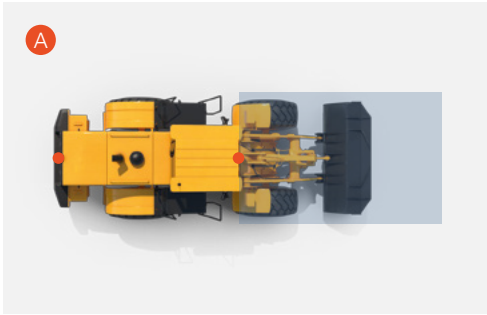
B



VBV-360-1000 High Definition Backeye® system with Artificial Intelligence

Part Number: 7524

- 4 camera 360° system
- Automatic Calibration
- High-Definition AHD 1080P
- Bespoke vehicle overlays for on screen customisation



Camera Monitor Systems

Camera systems are a vast improvement on the many mirrors needed to view construction vehicle blind spots. Mirrors themselves create further blind spots and 'information overload' for drivers who don't know where to look first. This is particularly difficult for construction vehicles as they need to be always alert and aware of their surroundings, especially when operating in noisy, low visibility environments.

Cameras provide a wider angle of view than mirrors and are less likely to be damaged, while built-in LEDs offer superior visibility in low light conditions.

Vehicle CCTV systems are used in a wide range of on and off-road applications to meet a host of health and safety legislative requirements. They can eliminate blind spots to prevent costly vehicle damage and more importantly, save lives.



Eliminate Blind Spots

Calibrated cameras capture all areas including the blind spots.



Real-time Views

Live pictures shown on the monitor without time lag.



Wide Angle Views

Provides a wider angle of view than mirrors and are less likely to be damaged.



Recordable

Record individual camera feeds in high definition to a mobile recorder.

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BE-870HM Elite AHD Monitor

Part Number: 6380

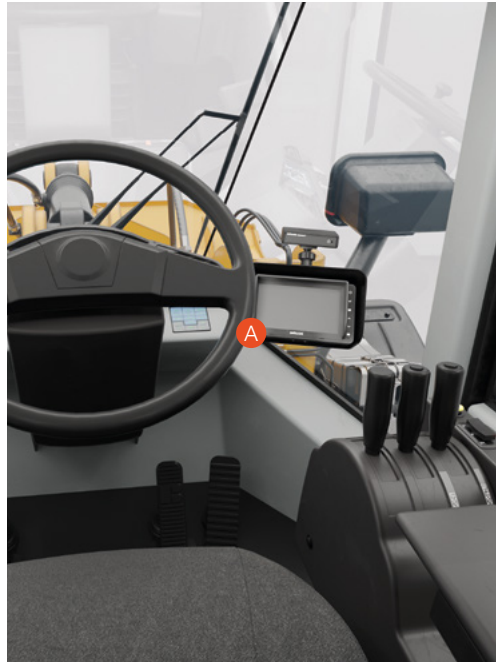
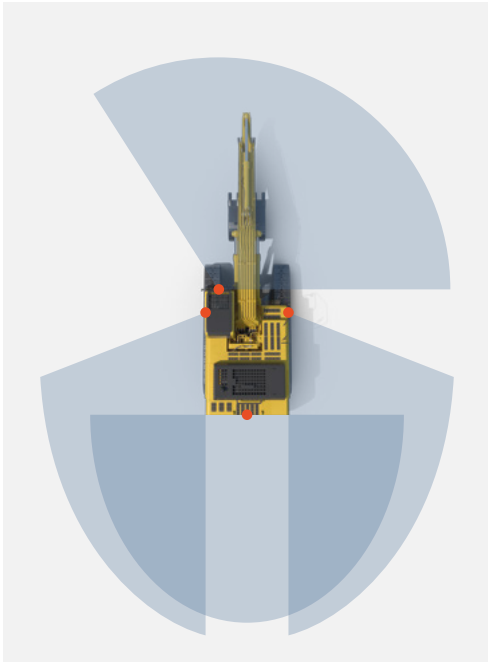
- AHD and CVBS compatible
- Two camera inputs
- Low reflection for easier viewing in all lighting conditions
- Keypad disable



BE-8100C Elite AHD Camera

Part Number: 6408

- High definition picture quality with 1080p AHD 2.0 video signal output
- Day/ night sensor
- Four infrared LEDs for ultra-low light performance
- Mirror/ normal view



Radar Obstacle Detection

Industries such as construction use machines and plant equipment, which by their very nature pose a danger if they are not managed safely. Blind spots are much larger on these vehicles, terrains are harsh and visibility is low.

Backsense® heavy duty radar systems are designed for vehicle and asset detection in blind spots which significantly reduces the chance of a collision. They detect stationary and moving objects, providing the driver with in-cab visual and audible warnings – alerting the operator whose attention cannot be focused on all danger areas at once.

They are most effective in harsh environments such as a construction site with poor visibility, including darkness, smoke and fog.



FMCW Technology

Transmits a continuous varying radar frequency signal with unique time stamps to each instance of the wave.



Configurable

Spread and length of the beam can be set to the width of your vehicle or beyond. Three pre-set models available.



IP Rated

IP69K Rated radar sensor.



Accurate Detection

Accurate detection distance of up to 60 metres.

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BS-8100 77GHz Programmable Detection Range

Part Number: 7135

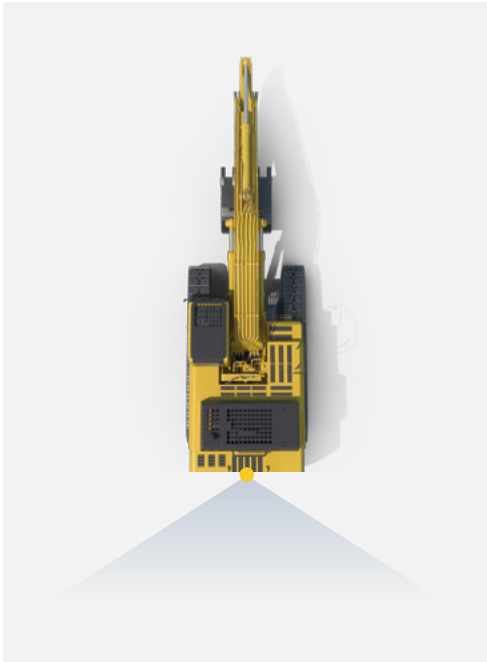
- Quick reaction time
- 1 activation input and 1 trigger output
- 140° horizontal detection angle
- Sensor resistant to water, moisture, dust, vibration, heat, cold, mud and glare



BS-9100 Backsense® 77GHz CAN object detection radar

Part Number: 6351

- Network up to eight sensors, protecting the blind side of the vehicle
- Communication via CAN Gateway
- Extremely rugged design for severe weather conditions and all terrains
- Complies with CAN2.0A Base Frame Format



Reversing and Warning Alarms

bbs-tek® multi-frequency back up alarms use a wide range of White Sound® frequencies. This enables the listener to instantly locate where and what direction the sound is coming from. The broadband sound also gives workers wearing hearing protection devices in loud environments such as construction sites, a better chance of hearing the alarm.

Quiet Mark and BBS White Sound® disappears into the environment quicker meaning that the sound is only heard where needed. This is beneficial when minimising noise nuisance to neighbours surrounding construction sites.



Danger Zone

Sound quickly subsides outside of danger zone eliminating noise nuisance.



Five Decibels Quieter

Self adjusting alarms operate effectively 5dB lower than conventional alarms.



Lifetime Guarantee

All bbs-tek® White Sound® alarms are guaranteed for life.

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SA-BBS-107 – Self-adjusting heavy-duty. 87-107 Decibels

Part Number: 1400

- Sound confined to danger area
- Instantly locatable sound
- Multi-frequency broadband sound
- Alarm continually adjusts to 5-10dB above ambient



SA-BBS-97 – Self Adjusting – Medium Duty. 77-97 Decibels

Part Number: 1399

- Sound confined to danger area
- Instantly locatable sound
- Multi-frequency broadband sound
- Alarm continually adjusts to 5-10dB above ambient



ELITE

HEAVY DUTY
VEHICLE SAFETY
SYSTEMS

Brigade's top of the range systems are ideal for vehicles and machines that require exceptional quality and consistent performance in the harshest conditions, including desert dust and wintery conditions. Rigorously tested to higher standards, the superior components and build quality are reflected in their 3 year, 5 year and lifetime warranties. Ideal for heavy duty applications.

BACKEYE® ELITE Range Monitors

Brigade's camera monitor systems enable drivers and operators to manoeuvre and drive safely. Vehicle mounted cameras can help the driver to see blind spots by delivering a live feed to the in-cab monitor.

- 7" Monitor & 4 camera inputs
- Screen viewing options including split, quad and picture-in-picture
- 5 Auto triggers

Bbs-tek® White Sound® Reversing Alarms

Vital safety devices needed to warn workers that a vehicle is manoeuvring. White sound alarms are the safest in the world due to their instantly locatable and directional sound.

- Multi-frequency broadband sound
- 102 decibel, 107 decibel or self-adjusting 87-107 decibel models
- Self-adjusting models continually adjust sound to above ambient
- Sound confined to danger area
- Eliminates noise nuisance

BACKEYE® ELITE Range Cameras

Brigade's camera monitor systems enable drivers and operators to manoeuvre and drive safely. Used on a wide range of on and off-road applications to meet a host of health and safety and legislative requirements.

The size of commercial vehicles and machines mean vehicle blind spots are a major factor in collisions across all industries. Operator positions, bodywork, absent rear windows and bulkheads create further restrictions and can greatly limit driver visibility, making collisions even more likely.

- Mirror/normal view
- Wide dynamic range for improved details in shadows and highlights
- 5 infrared LEDs for ultra-low light performance
- IP69K waterproof and dustproof

Backsense® Heavy-Duty Radar

Backsense® heavy-duty radar sensor systems detect stationary or moving objects in vehicle blind spots. Industries such as mining, quarrying, agriculture and construction use machines and plant equipment, which by their very nature pose a danger if they are not managed safely. Blind spots tend to be much larger on these vehicles and include not only the rear and nearside but also the front, especially with elevated driver positions. Terrains are harsh, vehicles are exposed to the elements more aggressively whilst thick dust and darkness decrease visibility further.



Brigade supports waste and recycling industry with high-quality safety solutions

Bianchi Casseforme was established in the 1960s and was the first company in Italy to replace wooden formwork with metal formwork, a temporary mould into which concrete is poured and formed so that it can set to the required shape. In the 1980s Bianchi Casseforme created its renowned concrete distribution machine, Speedy, which proved to be a versatile, economical, fast, and reliable vehicle and a turning point for the precast concrete industry. In the 1990s, the company entered the European market and in the late 2000s, the world market. Today, almost sixty years after it was founded, Bianchi Casseforme continues to focus on innovative and advanced technologies, such as the new electric Speedy.

To ensure maximum blind-spot safety on its vehicles, Bianchi Casseforme relies on Brigade's vehicle safety systems. These include Backsense® Radar and Backeye®360, a 360° camera-monitor system.



Backsense® is an FMCW (Frequency Modulated Continuous Wave) radar, which ensures accurate and instantaneous warnings of both stationary and moving objects, and its detection range can be configured to the vehicle, ideal for Bianchi Casseforme's fleet of Speedy machines. The fact that Backsense® is robust in design means it suits the type of environment that the Speedy operates in, meeting the needs of customers with heavy duty cycles, enabling 130 m³/day of concrete to be poured efficiently and safely.

Installation of the 4-camera system Backeye®360 was straightforward on Speedy, since the cameras are mounted on the upper, rotating cab of the vehicle, allowing the operator to always see the view relevant to the cab position. For the in-cab monitor, Bianchi Casseform opted for the more resilient 7" waterproof version. Backeye®360 allows the operator to see a 360° view of the vehicle's surroundings in a single image, or specific views by activating triggers. The monitor can be split to show the entire vehicle and a specific area at the same time, preventing blind spots and allowing the operator to have overall visibility of the immediate construction area.

Brigade

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