

Automated material handling and  
picking system specialists



**Diamond  
Phoenix**  
Automation

## Company profile

### Who we are

With over 50 years' experience, Diamond Phoenix Automation is one of the leaders in the design, integration, and installation of innovative material handling and picking solutions.

By embracing a wide range of technologies we are focused on providing cost-effective materials handling solutions for both simple and complex projects.

From picking and sorting solutions for retail distribution through to innovative workflow mechanisms for automotive engineering industries, our team of experts have made Diamond Phoenix a trusted name.



Diamond Phoenix Automation's head office, Milton Keynes

### Our approach

We are a company that focuses on solutions over product applications and have a tried and proven process for solutions development across a wide and varied range of applications.

We make a commitment to understand your business from the ground up and collaborate with you to ensure we understand your requirements and goals, guiding you through every step of the development process.

#### Our technologies

- Tote/carton conveyors
- Pallet conveyors
- Stacker cranes/ASRS
- Robotics
- Controls & software
- AGV/AMRs
- Horizontal carousels
- Vertical lift modules
- Pick to light
- Pick to voice
- Ergonomic pick stations

#### Our solutions focus

- Conveyors & transportation
- Automated storage & retrieval systems (ASRS)
- Split case picking systems
- Full case picking systems
- Buffer systems
- Bespoke systems

#### Ancillary products

- Pallet racking
- Shelving
- Live storage
- Mezzanine floors
- Mechanical & electrical services

#### Our core markets

- Retail distribution
- Food & beverage
- 3PLs
- E-commerce and mail order
- Spare parts distribution
- Airports & BHS
- Pharmaceutical/medical
- Woodworking/corrugated
- Automotive

## Solutions development process



#### System planning

- Initial consultation
- Project evaluation
- Data collection & analysis
- Concept development
- Project planning



#### Technology application

- Conveyors
- ASRS
- Pick to light/voice/RF
- Horizontal carousels/VLM
- AGV/AMRs



#### Controls & software

- Order processing
- Work management
- Material flow control
- Management support
- Functional description



#### Detailed proposal

- Solution proposal
- Solution drawings
- Operational overview
- Implementation schedule



#### Implementation

- Project management
- System engineering
- Operational integration
- Commissioning
- Transition support



#### Lifetime care

- Dedicated customer care dept.
- Detailed documentation
- Extensive training
- 24/7 breakdown support
- Spare parts supply



## Conveyors and sortation solutions

Diamond Phoenix Automation offer a full range of conveyor and transportation solutions to suit a wide range of applications. From simple low throughput transportation systems for totes, cartons, pallets, and custom loads to more complex integrated high speed sortation systems, our experience-based engineering

is behind the solution. Whether it's considering load handling characteristics, ergonomics, performance, costs or throughput, our engineering experience ensures your conveyor system will exceed your expectations.

### Tote/carton conveyors

Lineshaft, chain, belt, motorised driven rollers or gravity rollers are designed for a wide range of throughputs and loads, giving flexibility to any solution. This allows a system to be used as a simple transportation conveyor and minimum/zero pressure accumulation to manage and/or buffer loads within the system.

### Sortation and merge solutions

Sortation systems are used when a fairly high flow of cases, totes, or pieces need to flow to different destinations. Destinations may be conveyors assigned to picking zones, individual truck docks, truck routes, customer orders, or other order consolidation assignments.

### Belt conveyors

A comprehensive range of belt conveyors designed for multiple applications including: Elevating/lowering products between levels, belt bends, transportation of a diverse range of product loads, metering belts creating gaps between product, waste conveyors, and telescopic boom conveyors.

### Pallet conveyors

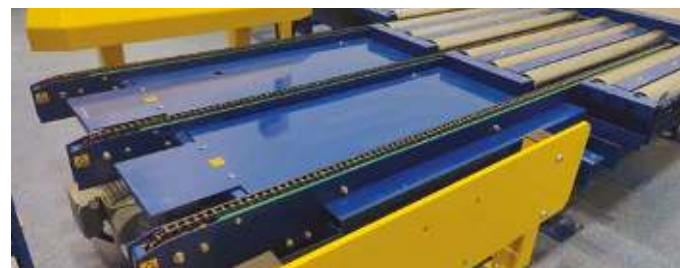
A complete range available including: Roller, chain, plastic modular, and gravity. Accompanied by a wide range of accessories; Transfers, turntables, shuttle cars, vertical conveyors, weight/size checking stations, and palletising equipment dependant on system requirements.

### AGV/AMRs

When fixed conveyors are not suitable AGV/AMRs can provide an effective method of providing transportation of product between destinations. AGV/AMRs can also perform many other functions such as inserting/extracting loads from racks, block stacking loads and vehicle loading.

### Controls and software

Full integrated controls designed to provide the required functionality of the solution. From standalone local controls to fully interfaced controls with other technologies and host systems. SCADA systems to provide full diagnostic and data reporting also form part of our solutions.



## Automated storage and retrieval systems (ASRS)

There's a constant pressure to make the most of available space across manufacturing, warehousing, and distribution facilities. Your competitive edge relies on your systems, productivity, and efficiency.

Our range of automated storage and retrieval systems (ASRS) is designed to provide efficient handling of a wide range of loads, handling everything from tiny parts through to fully-loaded pallets and more.



### Stacker cranes

Unit load and mini-load stacker cranes that have the flexibility to meet your unique requirement.

- Heights of above 40m
- Working loads between 50kg-7000kg
- Operating temperature range of -30°C to +60°C

#### Load handling devices:

- Single-depth telescopic fork
- Double-depth telescopic fork
- Shuttle

#### Performance:

- Drive speed upto 250m/min
- Lift speed upto 80m/min

#### Rail guided system:

- Single-aisle
- Curve going (multi-aisle)



### Horizontal carousels

Our horizontal carousels are the ideal automated storage and retrieval system for high speed order picking, parts delivery, and sortation applications.

- Typical rates: 200-600 lines per hour
- Rotating shelves automatically positioned in front of operator
- Wide range of bin sizes
- Bin capacities up to 1000kg
- Integrated pick and put to light
- Carousels can be double or triple stacked without modification

#### Degrees of automation:

- Manually controlled
- Semi-automated
- Fully automated



### Vertical lift modules

The VLM is a vertical machine that stores steel trays which are put away and retrieved by a vertical lift carriage.

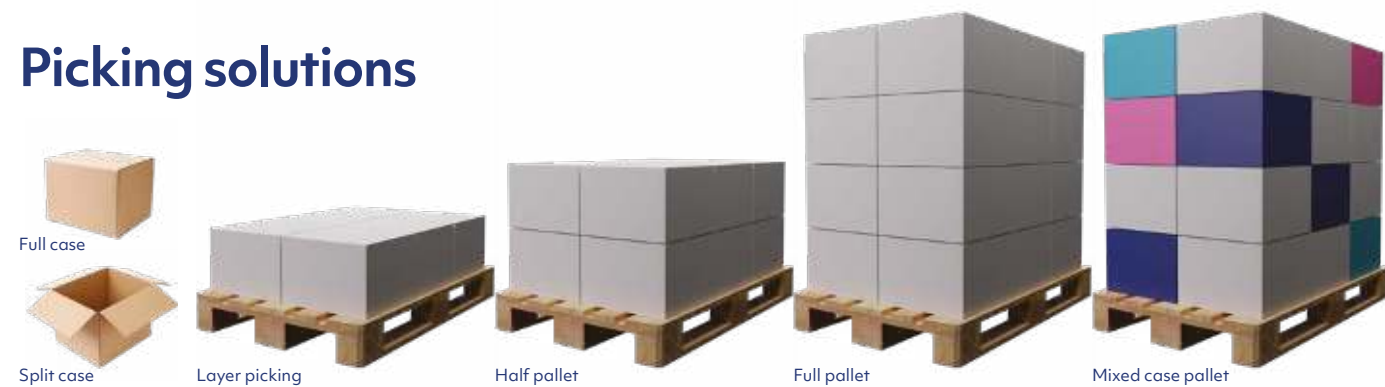
- Heights of up to 16.1m optimises floor space
- 'Goods to man' methodology increases picking efficiency
- Multiple pick bay configurations

#### Multiple tray sizes:

- Max tray width 4,100mm
- Max tray depth 1,257mm
- Max tray height 1,295mm
- Max tray capacity 990kgs



## Picking solutions



Diamond Phoenix Automation offer technologies to provide a wide range of picking solutions including split case/each picking, full case picking, mixed case pallet assembly, or a combination.

From the most basic setup to fully automated systems and from order picking in distribution to kitting in a manufacturing environment, Diamond Phoenix Automation have the expertise to increase your picking efficiencies and accuracy, and achieve your future goals.



### Pick by voice

Hands-free solution that is suitable for a wide SKU range with increased picking and accuracy



### Horizontal carousels

High-speed split case picking, buffers systems, sortation and consolidation (PUT) systems are ideal applications



### Pick to light

Light directed system best applied to fast moving SKUs in both picking and consolidation applications

## Solution considerations

Diamond Phoenix Automation understands that picking operations are as unique as individual clients. Working closely with you to achieve your goals, part of our proven solutions approach is to undertake a full analysis of your existing operation including;

- Existing operational strategies
- Value added processes
- Replenishment cycles
- SKU profiling
- Quality inspection
- Returns process
- Order profiling
- Shipping cycles
- Labour analysis

The resulting data allows us to determine what technologies and operational strategies would best be employed for your specific use case.



### Sortation

Generally applied to a specific range of high volume moving SKUs



### Robotics

Automatic palletising and de-palletising suitable for full-case/tote picking and mixed-case pallet assembly



### Vertical lift module

Vertical ASRS that can be used in full & split case picking applications for a wide range of SKUs. Used in buffer and sequencing applications. Effective if floor space is at a premium.



### Software

Modular design to deliver the functionality required and keep your operation running at peak performance. Interfaces with your existing WMS/ERP systems

## Customer service

The decision to opt for an automated materials handling solution is usually based on increasing operational efficiencies and represents significant investment.

In order to maximise that investment and ensure the highest levels of system 'up time', Diamond Phoenix Automation offer a range customer care packages the can be tailor-made to suit your specific requirements.

From a single vertical carousel to a fully automated warehouse, we can deliver the right package for you.

- Planned maintenance service visits
- 24/7, 365 day telephone support
- VPN remote diagnostics
- 24/7 breakdown callout response
- 4hrs to site guaranteed
- Spare parts
- System training
- Detailed documentation
- System enhancements



AMHSA

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