Clayton™

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Clayton™

SHUNTER LOCOMOTIVES

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BATTERY, DIESEL-TO-BATTERY CONVERSIONS, LOW-EMISSION DIESEL, DIESEL ELECTRIC, HYBRID & HYBRID+™

Clayton's range of shunting locomotives are becoming the haulage solution of choice in industry

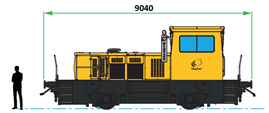
Being the workhorses of rail depots and manufacturing facilities, some shunters are 60 years old, possess high emissions levels and are increasingly unreliable, labour intensive and expensive to operate. They usually require at least two personnel and specialist maintainers. A good example can be found in the case of the 996 Class '08' shunters made in the UK between 1953 and 1962. Less than 10% of them remain operational today and the number is decreasing every year due to the obsolescence of critical parts and general age-related issues.

Clayton offers a new generation of shunters providing cost-effective haulage solutions:

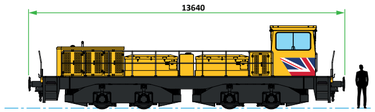
- 2-axle locomotives up to 50 tonnes
- 4-axle Bo-Bo locomotives up to 100 tonnes
- 6-axle Co-Co and Bo-Bo-Bo locomotives up to 150 tonnes
- Diesel-to-Battery conversions of existing shunters
- Power from 208 kW to 1,248 kW
- Tractive effort up to 440 kW

Benefits include:

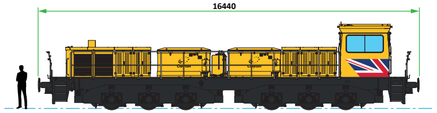
- Significantly lower operational costs
- Improved fleet availability
- Battery locomotives for use near built-up areas as they are emission free and low noise
- Single-driver operated, multiple locomotive option for increased performance and haulage capacity
- Increased safety including optional remote control for single driver operation
- Zero and low emissions (EU Stage V)
- Low maintenance solutions
- Short delivery time with purchase, lease, lease-to-buy or part exchange options available
- UK technical and project management support



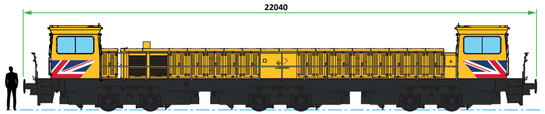
0-4-0 Hybrid+™, Diesel-Electric or Diesel-Hydraulic



Bo-Bo Hybrid+™ or Diesel-Electric



Co-Co Hybrid+™ or Diesel-Electric



Bo-Bo-Bo Diesel-Electric

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Battery Locomotives:

- Zero emissions, maximum CO_2 reduction, no fumes inside workshops
- Low noise, increasingly important near residential areas and for 24/7 operations
- Lowest operational and maintenance costs
- Highest availability in service
- Regenerative braking, resulting in reduced brake wear and reduced charging times

Hybrid+™ Locomotives:

- All the benefits of battery locomotives
- Battery charging on the locomotive and depot based
- Small engine enables low maintenance costs

Diesel to Battery-Electric conversions:

- Benefits same as battery locomotives
- Maximises capital cost saving
- Retain existing certification in most cases
- Lowest driver/maintainer retraining cost
- Improved safety

Diesel and Diesel-Electric Locomotives:

- Lowest emissions with EU Stage V
- Reduced idling, the latest engines can be shut down and restarted quickly
- Improved line of sight

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SHUNTER LOCOMOTIVES CASE STUDY

BATTERY-DIESEL HYBRID+™

CBD90 Hybrid+™ Locomotive for Tata Steel, Port Talbot

As part of Tata Steel's requirement to replace their ageing locomotive fleet at the Port Talbot works, Clayton Equipment has supplied a number of new Battery-Diesel Hybrid+™ locomotives.

The new Clayton Equipment CBD90 is a 90 tonne, Hybrid+™ Bo-Bo locomotive, being the largest locomotive designed and built in the UK for over 16 years.

Power is delivered by the traction battery and four maintenance-free, high torque electric motors, totalling 416 kW. The locomotive is self-contained, with onboard battery charging from a low emission EU Stage V compliant Diesel engine. This configuration enables Tata Steel to realise significant financial savings from reduced fuel and lower maintenance costs. With 24/7/365 operation, the locomotive's high availability allow Tata Steel to maintain and grow their planned productivity.

The locomotive design offers high torque, high haulage capability with over 300 kN tractive effort, delivering the 2,500 tonne loads safely across the Port Talbot works, operating on their maximum gradient of 1:60 (1.7%).

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SHUNTER LOCOMOTIVES CASE STUDY

BATTERY-DIESEL HYBRID+™

CBD90 Hybrid+™ Locomotive for Beacon Rail Leasing

Clayton Equipment, has a contract with Beacon Rail Leasing for the supply of 15 innovative Hybrid+™ CBD90 locomotives along with options for a period of three years.

The CBD90 locomotive is a 90 tonne Hybrid+™ Bo-Bo locomotive, the largest locomotive built in the UK in over 20 years is self-contained, with on-board battery charging. Power is delivered by the traction battery and 416 kW maintenance free, high torque electric motors. Costs and emissions are significantly reduced by the Hybrid+™ technology. Battery charging is undertaken from a 3-phase supply, providing 100% emission free solutions or from the low emission, EU Stage V compliant Diesel engine.

Beacon Rail supports its customers in the UK and Europe with flexible rail leasing solutions. With the increased demand for lower emissions, new technology, more capacity and cost-effective assets, this new partnership with Clayton Equipment will serve to meet this demand. Beacon in aligning with Clayton Equipment and its battery-powered equipment will not only provide for environmental benefits but allow their customers to realise costs savings over time in terms of fuel consumption and lower maintenance.

This unique agreement is a significant milestone in Clayton Equipment's history and with Beacon Rail's extensive rail asset expertise will ensure the two companies maximise the potential to supply customers with sustainable, low emission, environmentally compliant equipment.

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