Energy, experience and commitment

MCR Engineering

Excellence in **Loading Dock Technology**



Innovation Without Compromise

ESIDOCK
Environmentally Secure Integrated Docks

Energy, experience and commitment

About MCR Engineering

MCR Engineering are a specialist innovative loading dock and industrial door provider in the Irish and U.K. Markets, please refer to web site **www.mcrengineering.ie.**

Our field engineers have extensive experience in all aspects of conceptual design and manufacture of specialist loading dock and materials handling equipment. MCR Engineering have recently launched Esidock, a revolutionary and innovative loading dock system that will provide an unbroken cold chain and secure environmental seal between the docked vehicle and the loading bay.

The system is specifically designed for the food, pharma and health care industries. Further information is available on **www.esidock.com.**

Our client portfolio include the following international companies:
Pfizer, Apple Operations Europe, Pepsico, Atlantic Industries, Amgen, Microsoft, Yves Rocher, Abbott Laboratories, Tesco, Glanbia, ABP, Kerry Group, Dawn Farm Foods, Arco Pharma etc.

Our company profile is synonymous with excellence and achievement. The ability of the group to deliver in an ever demanding and challenging market place is acknowledged and respected within the industry.

Our service department can guarantee a 24 hour call out service with maximum 3 hour response time. We retain in stock a comprehensive range of replacement components suitable for the conventional range of loading dock equipment and industrial doors.

MCR Engineering are eminently qualified and experienced to design, manufacture and maintain all types of industrial door, loading dock and materials handling equipment.

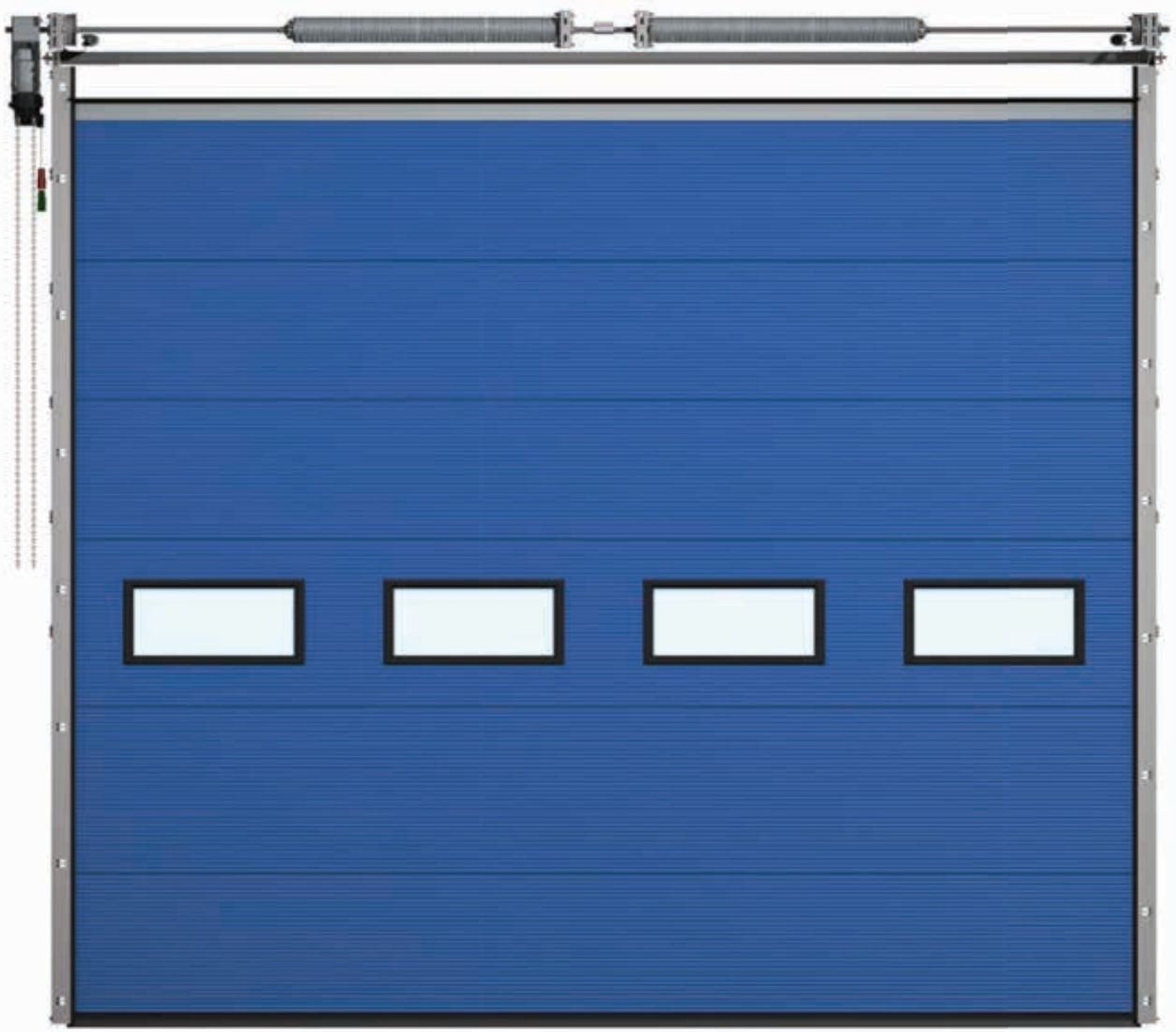




CONTENTS

1	**Sectional Doors**	4
	Sectional Door Specification	5
	Specialist Doors	7
	Roll Fast Doors	12
	Specification	14
	Roll Fast Door Range	15
2	**Dock Levellers**	16
	Dock Leveller Range	18
	Dock Leveller Specification	19
	Technical Specification	20
3	**Double Deck Lift**	22
4	**Environmental Dock Seals and Shelters**	24
	EsiDock Profile	26
	Constant Contact Head Seal	28
5	**Dock Port**	30
6	**Goods Lifts**	32
	Goods Lift Range	34
	Scissors Lift Range	36
7	**Automatic Vehicle Restraint**	38
8	**Ramps**	40
9	**Loading Bay Accessories**	42
10	**Entrance Systems**	44
11	**Industrial Engineering Division**	50
12	**End of Line Automation**	52
	MCR Engineering Service	56

1 Energy, experience and commitment



Sectional Doors

PANEL
The door panel provides the overall Insulated Sectional Overhead Door assembly with its main characteristics and therefore the following detailed information is provided to assist when the door performance needs to be explained.

COMPOSITION
The use of quality materials and precise manufacturing controls ensure long service life in normal industrial and commercial applications. All MCR Insulated Door Panels conform to the Building Regulations requirements for Industrial Doors, and the durability of finishes are those specified by our steel suppliers technical specifications department.

OUTER AND INNER SHEET:
0.5mm hot dipped galvanised steel. Both inner and outer sheets are supplied "V" grooved to provide increased lateral strength, and the whole panel is made-up to form a "T+G" joint top and bottom. Reinforcing strips are fixed internally to ensure secure fixings for the roller carriers and hinges.

CORE:
40mm thick rigid polyurethane foam, density 40kg/m

SEAL:
Low density compressible foam at panel base, and PVC Tape to the panel nose, all factory applied.

THERMAL PERFORMANCE
MCR sectional door panels provide high levels of insulation. The foam core between the inner and outer steel sheets of the door panel creates effective interruption of cold bridges, thus preventing transmission of heat or cold.

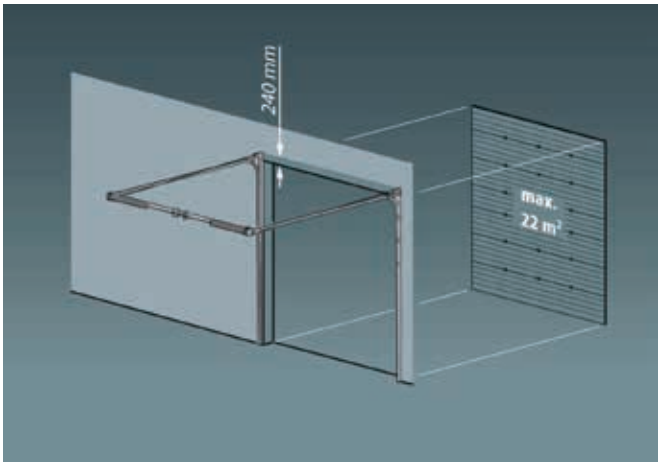
SAFETY CERTIFIED
MCR products are subject to constant and intensive durability tests. In these tests, the prototypes open and close 30,000 times, after which they are assessed by experts. This constant attention to quality and safety has borne fruit, and our sectional doors and their physical qualities are fully EN13241-1 compliant and are integrally TUV Nord certified.

PHYSICAL QUALITIES
Numerous mechanical and electronic qualities of the MCR sectional doors are checked during the thorough tests. These tests, performed by TUV Nord, the stringent German certification and inspection body, mean that each tested physical quality receives its own classification, making it easier to compare similar products from different manufacturers. The ISO 40mm sectional door is MCR's most popular door, a modern design that unifies excellent thermal insulation and sound absorbing qualities in its micro-profiled panels. The choice of design and materials are endless, which means the door can always be perfectly configured to meet your wishes. Numerous types of built in windows as well as different types and widths make the ISO 40mm range, as well as a wide variety of MCR's in-house RAL colours.

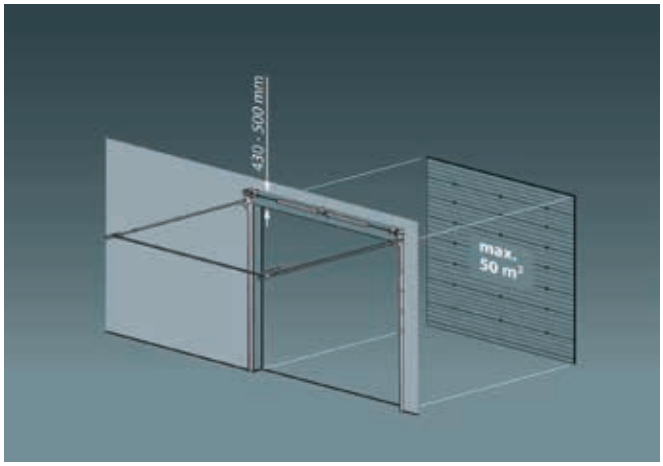
FLEXIBILITY IS EVERYTHING
ISO 40mm sectional doors are designed and manufactured using the very latest technology. Their finish is robust and detailed, as demonstrated by the metal or aluminium end caps, the reinforcement profiles and the anodized aluminium sub profiles, which cannot be seen from the outside. Flexibility is everything in the manufacturing process, and it is a true all rounder that perfectly combines price, performance and application options.

U-value ISO 40mm sectional door: 5,000 x 5,000mm: 1.05w/m2k

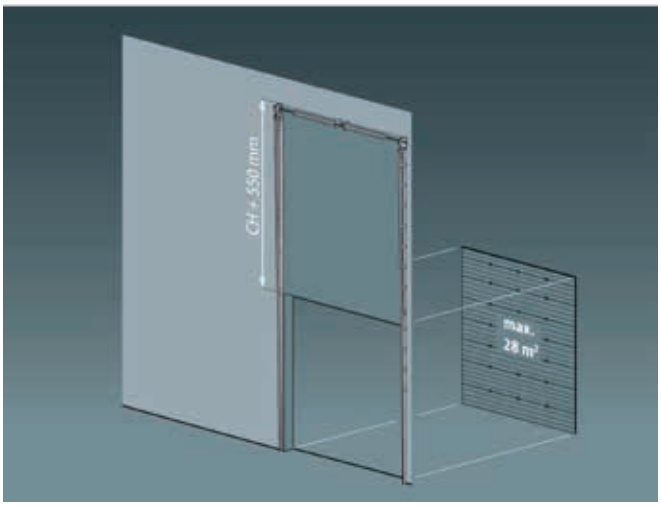
Summary of Door Track Configuration



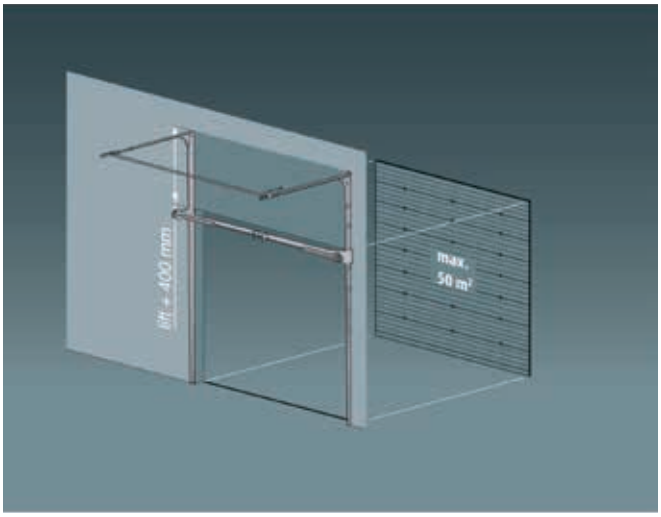
Low Headroom



Standard



Vertical



High

Specialist Doors



AIRCRAFT HANGAR DOORS

- Hinged folding door leaf construction
- Insulated door leaf
- Integrated double glazing
- Manual or power operation



VERTICALLY LIFTING DOOR

- Double skin fabric door
- Vertical lift
- Storm resistant
- Up to 100m passage width



SLIDING FOLDING DOORS

- Bi-parting or single stacking arrangement
- Insulated door leaf
- Integrated double glazing
- Manual or power operation



FAST ACTING SECTIONAL DOOR

- Opening speed up to 3 metre/second
- Track to suit almost any application
- Standard range of colours
- Vision panels optional

Specialist Doors



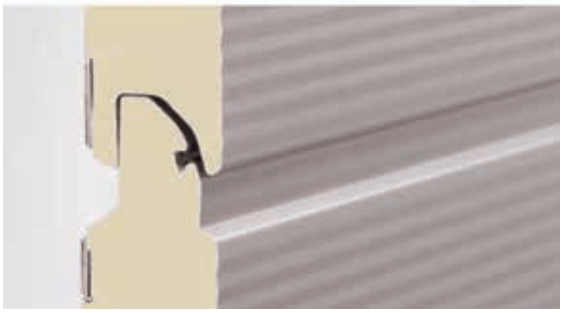
HIGH SPEED TURBO ROLL SECURITY DOOR

- Storm resistant construction
- Opening speed up to 3m/s
- Integrated glazing
- Electric/automated operation



ROLLER SHUTTER SECURITY DOOR

- 75mm interlocking steel lath construction
- Plasticol/galvanised finish
- Electrically operated
- Storm proof protection



INSULATED

- U-value 1.85 W/Msq
- Storm resistance roller shutter door
- RAL colour of choice
- Electrical/automated operation



DOMESTIC GARAGE DOORS

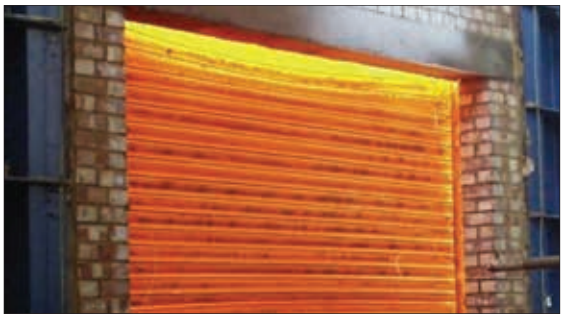
- Insulated aluminium profile
- Standard colour range
- Manual/automated operation
- Environmentally sealed

Specialist Doors



HINGED STEEL DOOR

- Up to 4 hour fire resistance
- Insulated door leaf and frame
- Suitable for clean room applications
- Integrated glazing



FIRE ROLLER SHUTTER DOOR

- To conform B8 M76 Part 22
- Up to 4 hours fire resistance
- Battery back-up, fail safe close
- Audio/visual warning system



AUTOMATIC FIRE CURTAINS

- Up to 4 hours fire resistance
- Compact construction
- Stainless steel interwoven fabric curtain
- Powder coated finish to standard RAL colour



FIRE RESISTANT INSULATED SECTIONAL DOOR

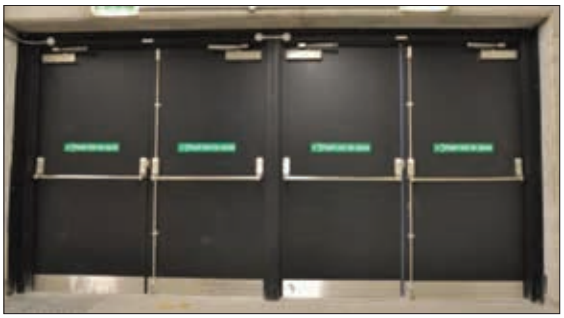
- 60 minute fire resistance
- Electrical operation
- Standard RAL colours
- Available in all track configurations

Specialist Doors



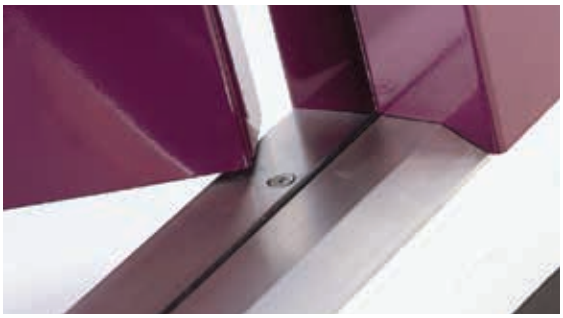
FIRE RATED

- Up to 4 hours
- In conformity with BS 474 part 22
- Glazed panels
- Environmental seals



EMERGENCY ESCAPE DOOR

- Panic bar release
- Powder coated to standard RAL colour
- Environmental seals
- Electronic access



CLEAN ROOM

- Sealed construction
- Flush glazed panels
- Threshold drop seals
- Powder coated to standard RAL colour

Specialist Doors



SEAMLESS CONSTRUCTION

MCR Cleanroom doors are manufactured from high quality, corrosion resistant steel. The seamless joint construction of the door leaf and door frame ensures a high performance door installation. The door assemblies are powder coated finish to standard RAL colour.

INTEGRATED ASTRAGAL

Overlapping astragals are required on cleanroom double leaf doors when fire resistance is necessary or when air pressure differentials between rooms need to be regulated. MCR cleanroom doors feature a unique, fully-integrated astragal, ensuring no seams or fixings on the face of the door leaf., drop down threshold seals are included.

VISION PANELS

Cleanroom doors feature a wide range of cGMP compliant vision panels. Options include 45' vision kits for single glazing or flush glazing to one or both sides. Vision panels can be supplied with no visible fixings to ensure an easy wipe-clean surface.

DOOR HARDWARE

Doors can be customised to accommodate all ironmongery suites. Automatic activation is available.

1 Energy, experience and commitment



Roll Fast Doors

FLEXIBLE VERTICAL ROLLING CURTAIN

Material:
Polyester fabric with smooth, glossy 900g/m² PVC coating, anti-UV treatment on both sides, white colour.

Peripheral seal tightness:
- The top of the curtain is fixed to the roller shaft under a dust-resistant, seal tight soft cover.
- The vertical edges are kept against the back of the vertical guides using patented flexible stiffeners.
- At the bottom of the curtain, a self adjusting flexible skirt extends to the floor.
- Leakage area inferior to : 38cm².

Resistance to pressure:
The horizontal stiffeners are distributed from top to bottom every 750mm, they are enclosed in seal tight pockets and their edges are pressed inside the noise-reducing vertical guides.

Pressure resistance up to 100Pa without increase of the leakage area.

Visibility: one/two rows vision panel in soft laminated PVC, composed of 3 anti-fatigue layers, total thickness 0.8mm, anti-UV treatment on both sides, protected against creep and self-abrasion patented.

Opening:
Automatic by bottom-to-top roll-up on the shaft. Opening speed 1.2m/s.

Closing:
Automatic after adjustable timer Closing speed 1m/s.

FLEXIBILITY - PASSIVE SAFETY

In the event of vertical impact The patented multi flexible closing edge is flexible over 300mm in height and its dynamic vertical force was proven harmless (in compliance with standard NF EN 12 453- 5.1.3 Annex A).

In the event of horizontal brushing The patented wireless multi flexible closing edge is flexible on the whole width of the opening and over 300mm in height, therefore accompanying the movement of any horizontal impact.

Integrated active safety Reactive edge In the event of vertical or horizontal impact on the patented reactive intelligent closing edge, an invisible sensor beam inside the curtain is interrupted and the curtain is rolled up immediately.

Automatic re-insertion of the curtain in the guides. A sensor cell is integrated in the slide rails, 280mm above the floor. It rolls the door up and keeps it open for as long as an obstacle is detected.

- Opening speed up to 1,200mm/sec
- Crash out self repair facility
- Composite non-corrosive construction
- Wireless auto return safety edge
- Wash down facility
- Integrated vision panels
- Raised curtain panel sections to reduce wear and abrasion
- Standard range RAL colours

Specification

CONTROL PANEL:

- The control panel can be positioned up to 3m from door installation. Alternatively, the control panel can be mounted adjacent to door jamb as illustrated.
- The electronic control box, with safety controls, self-diagnostic and cycle counter.
- Wired logic and protection against all exterior electromagnetic interferences.
- Cabinet protection IP 65.
- Power supply 400V Tri-phase + Ground connection -50Hz 24V AC output.

OPENING ACTIVATION:

- Push button box.
- Pull cord switch
- Radar motion detector
- Radio transmitter receiver

CLOSING:

- Automatic after adjustable timer

EXTRA SAFETY:

- The slightest deformation of the reactive closing edge is detected by a patented invisible sensor mounted on a telescopic arm and encased inside the curtain.
- The transmission of information to the control panel is protected against radio waves and electro-magnetic interferences via a patented anti-fatigue, self-aligning and smooth shielded cable.

EMERGENCY STOP BUTTON:

- Standard on all models, located on the front side of the control panel.

Technology: Our technology is designed in multifunctional blocks built using the latest multicomposite materials. These materials prevent surface and depth defects. They are sound absorbing and offer anti-thermal bridge protection. They are designed to withstand tearing and shearing strains when the motor unit and curtain are in operation.

Shapes: The shapes are rounded, cavity-free, oriented downwards and have a smooth, water-repellent, wear-resistant coating.

Properties: The frame's resistance was calculated and validated on several thousands of installations.

It is stronger than 316L stainless steel.

Roll Fast Doors



FOOD

- Composite construction no corrosion
- Wash down capability
- Opening speed up to 1,000mm/sec
- Crash out facility



FREEZER

- Composite construction
- Suitable –25 deg.
- Opening speed up to 1,000mm/sec
- Insulated curtain



CHILL

- Chill room fast acting door
- Opening speed up to 1,000mm/sec
- Insulated curtain
- Composite construction
- Flexible curtain



EXTERNAL

- Storm resistant to class 3
- Opening speed up to 1,000mm/sec
- Tear resistant flexible curtain
- Integrated vision panels

2 Energy, experience and commitment



Dock Levellers

Electro hydraulic Dock Leveller with a hinged swing lip. This model is widely used in transport logistics and complies fully with the European standard EN1398 in compliance with dock leveller performance and safety requirements

OPERATION

The MCR dock leveller has been designed to bridge the gap between the loading bay platform and the vehicle bed, creating a gradient to suit the optimum method of loading and unloading. The dock leveller is also designed to follow the vehicle bed, when this deviates from the horizontal , caused by offset loads within the vehicle. The dock leveller lip will remain in contact with the vehicle bed during the loading and unloading process.

PLATFORM SIZE

Standard platform length is between 2,000mm and 5,000mm. Standard platform width is 1,800, 2,000mm, 2,100mm and 2,250mm. Construction height is between 600mm and 900mm. Standard lip length is 400mm and a 500mm lip is available as an option. The dock leveller can also be delivered tailor made to suit your existing pit size.

CONSTRUCTION

Modular construction. Platform; Durbar plate 6/8. S235JRG2 or Durbar plate 8/10 S235JRG2. Lip; Durbar plate 12/14 S355J2G3. Platform with 10 or 12 bended profiles. Self supporting or pit mounted construction. Standard colour: RAL 9005 Jet Black.

CAPACITY

Rated load capacity for dock levellers will range from 6,000 to 20,000.

SAFETY

Fixed maintenance strut. Full hydraulic safety stop by means of a pipe rupture valve built into cylinder. Emergency stop switch with reset facility. Motor safeguards by means of a thermal relay.

Dock Levellers



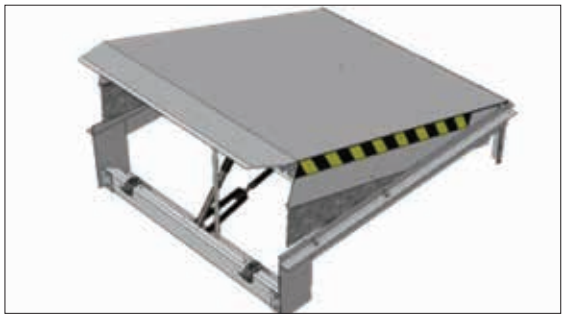
TELESCOPIC LIP LEVELLER

- Up to 10,000kg capacity
- Lip extension up to 1,000mm
- All functions hydraulically operated
- Designed to service all conventional containerised vehicles



SWING LIP LEVELLER

- Up to 20,000kg capacity
- Lip extension up to 500mm
- All functions hydraulically operated
- Designed to service all conventional containerised vehicles



VAN DOCK LEVELLER

- Capacity 6,000kg/2000kg
- Lip length 600/1,200mm
- 2 no. individual lift cylinders
- Segmented lip



COMBINED DOCK LEVELLER SCISSORS LIFT

- Up to 10,000kg capacity
- Separate control for dock leveller and scissors lift functions
- Vertical travel up to 1,600mm
- Swing lip dock leveller

Dock Leveller Specification

Depending on the width, the dock leveller is strengthened along its length by means of 10-12 set profiles. These allow the dock leveller platform top to 'twist' and compensate for vehicle 'tilt' caused by off- set loads within the vehicle. The lip will remain in contact with the vehicle bed up to a maximum of 100mm from the horizontal. The rear of the top platform is connected to the lower frame by means of three hinges (each with a length of 300mm). The pins of the hinges (Ø30mm) are made from drawn steel rods which can easily withstand the applied forces. Similar pins (Ø28mm) are used for the lip hinge at the front of the platform top. These are the centre of the self-cleaning, open lip hinge construction. The robust front channel absorb the forces created by an emergency stop, cross traffic and where end loads are being loaded below dock height. The self-supporting characteristics enable either an open or closed pit floor to be selected or for a so-called tail-lift opening to be used. Furthermore the front channel fixed to the lower frame provides protection for the hydraulic and mechanical components on the underside of the dock leveller.

DIMENSIONS

If required our dock levellers can be tailor- made. Our standard models have a construction height of either 600 or 900mm are available in a large range of platform dimensions. The lip (length 400mm) has a location length of 225mm on the vehicle bed, when using 100mm thick bumpers. According to EN 1398 the dock leveller is not allowed to be operated outside the permissible gradient range of ± 12.5% (approximately ± 7°). In this instance, the effective working range is measured from the front-side of the bumpers, taking the arc movement of the lip into consideration.

HYDRAULIC OPERATION

The hydraulic functions are performed according to a logical sequence, with the aid of the Logic Block System which is operated by varying pressure differences. The platform is powered by a hydraulic cylinder (outside Ø 65mm, from L2 = 4,500 outside Ø 110mm) and the lip by a separate self-dampening cylinder (outside Ø 45mm). The hydraulic system is completely closed and cannot, even under the most extreme circumstances, be affected by dirt, sand or dust. Thanks to the over dimensioned cylinders; a low working pressure of approximately 70 bars is created (from L2 = 4,500 approximately 90 bars). The chrome hardened main cylinder is designed to hold a pressure of 1,200 bar. As a precautionary measure, a pipe burst valve is integrated in the main cylinder. The chrome hardened lip cylinder and the hydraulic hoses are designed to hold a pressure of 600 bars. The compact hydraulic power pack is positioned below the dock leveller's platform and is connected with both cylinders by two 750mm long hydraulic hoses. This way damage from the outside or by movement is prevented. All these characteristics ensure a safe hydraulic system with a long life span and a minimum of maintenance. The dock leveller is operated with only one push button. By keeping the push button pressed, the platform will go up from its resting position, when the highest point is reached, the lip will swing out. When the push button is released, the platform and lip will descend automatically to the level of the vehicle bed. During loading and unloading, each up and down (suspension) movement of the vehicle is automatically followed. After the loading or unloading process, the push button is pushed in continuously to bring the system back into the rest position. The dock leveller is also suitable to load or unload so-called 'last cargo' below the dock level.

Dock Leveller Specification

- Fully hydraulic safety stop by means of a pipe rupture valve built into cylinder.
- Emergency stop switch with reset facility.
- Non retractable sliding toe guards.
- Robust lip keepers for transverse movements (cross traffic)
- Black / Yellow safety markings.
- Non-removable maintenance strut.
- Motor safeguards by means of a thermal relay.
- Control panel instruction symbols.

STANDARDS

The dock leveller 232 is CE marked. The MCR dock levellers are in accordance with all safety aspects of the European standard EN 1398. The standard load capacity, which is 60 kN (axle load) is designed on a minimum surface contact per wheel of 150 x 150mm and a maximum gradient of the platform top of 12.5 percent, in accordance with the European standard EN 1398. Any required load capacity is available as an option.

OPTIONS

- Various types of pit construction,
- Dock leveller as box model,
- Greater lip length,
- Tapered lip on both sides,
- Top platform plate with non-slip coating,
- Double main cylinder,
- Hot dip galvanised with stainless steel shafts,
- Platform insulation,
- Air seals on three sides of platform,
- RAL colour as required,
- Return to rest position with push-button impulse,
- Rest position switch for control of traffic light, door,
- Leveller/ door interlocking,
- Integrated control panel including control for door, traffic light etc

Dock Leveller Specification

Standards	CE marking Capacity (EN 1398) 60 kN
Construction height	600, 900mm
Lip length	400mm
Lip angle	(ca. 4°) 45mm
Motor	0,75 kW
Power supply	3 phase, neutral and earth / 400 V
Control current	24 V DC
Protection class.	IP 54
Working pressure	ca. 70 bar
From L2 = 4500mm	ca. 90 bar
Outside diameter main cylinder	65mm
From L2 = 4500mm	110mm
Outside diameter lip cylinder	45mm
Operating temperatures between -30° and +50° Celsius	
Standard colour	(black) RAL 9005

Energy, experience and commitment



Double Deck Lift

With the ever increasing cost of transport, the introduction of double deck trailers is providing significant savings. The need to service these trailers in an efficient manner inspired MCR to develop this double deck vehicle lift. The free standing design allows this lift to be installed in both new and existing sites. A wide range of finishes allow the lift to merge seamlessly with any building.

SPECIFICATION CONSTRUCTION:

- 4,500kg to 10,000kg capacity
- Cladded dock pod customised to suit individual applications
- Dock lights
- Dock bumpers
- Dock shelter
- Travel up to 3,500mm above ground floor level

Platform size	customised to suit individual applications
Dock lip	2,100mm x 750mm hydraulic lip
Platform surface	chequer plate
Safety landing gate	full height landing gate 2,200mm high interlocked with lift control
Entry gate	bi-parting swing gate electrically and mechanically interlocked with lift control
Operating voltage	3 phase, 400 bolt, earth and neutral supply
Control voltage	24 volt control voltage. Constant impulse control system
Traffic light	red/green traffic light with switch in loading dock. 24 volt LED. 300mm overall height. Complete with signage.
Dock shelter	customised to suit individual applications
Bumpers	200mm x 450mm x 100mm
Construction	free standing double mast

4 Energy, experience and commitment



Environmental Dock Seals and Shelters



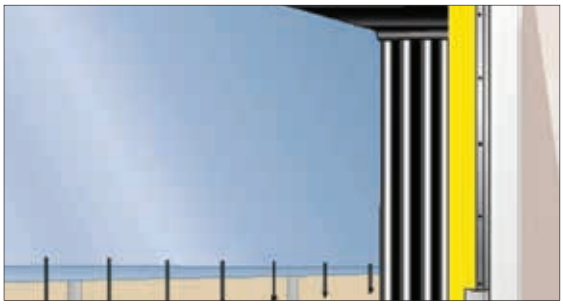
CONSTANT CONTACT 4 SIDED DOCK SEAL

- Automatically adjustable constant contact head seal
- Compressible side foam pads
- Automatically adjustable bottom seal
- Suitable for vehicle with tail lift



CONSTANT CONTACT HEAD SEAL

- Auto adjustable head seal
- Compressible side foam pads
- Auto head seal return to open position
- Service conventional range of containerised vehicles



INFLATABLE 3 SIDED DOCK SEAL

- Automatically adjustable head seal
- Inflatable side pads
- Auto head and side seal return to open position
- Durable hard wearing material



DOCK SHELTER 3 SIDED CURTAIN

- Flexible 3 sided curtain
- Compressible frame construction
- 600mm projection
- Will service conventional containerised vehicles

4 EsiDock: Revolutionising Dock Equipment through Innovation



MCR: Approved Esidock Agent

Esidock: The world's first retractable 4 sided sealing solution

EsiDock Solution:
The Features and Benefits

What makes **EsiDock Solution** a revolutionary design is its **hydraulic retractable bumpers.** Apart from the obvious benefits of installing EsiDock Solution, there are many other advantages and features to this unique docking solution.

The primary function of EsiDock is that it allows trailer doors to open into the facility and provides unrestricted access to the back of the vehicle. It is designed to service a full range of different trailer types.

Unique Benefits

In addition the Esidock solution allows a full 4-sided environmental seal to be created between the truck and the building, prior to the opening of either.

Provides greater security of goods in warehouse and trailer for operators.

Ensures driver and operator safety in docking operations.

Provides labour efficiency with yard operations.

Provides the possibility to create a complete seal between trailer and facility ensuring non contamination of goods and conservation of controlled temperature.

Truck fleet utilisation improvements for fleet operators.



Environmental Benefits

Energy savings with provision for 4-sided seal.

Dust prevented from entering warehouse through gaps.

Rodent ingress prevented through complete seal when doors are open.

Prevents harmful diesel fumes from entering warehouse.

Operational Benefits

Operator retains full control of access to warehouse and trailer.

No shunting required – Yard movements drastically reduced.

Trailers can be left in position for unloading while the load remains secure.

Warehouse remains secure and airtight until operator is ready to unload.

No damage to the bumpers during the loading orunloading process.

4 Constant Contact Head Seal



MCR: Approved Esidock Agent

Constant Contact Head Seal

SPECIFICATION:

- Constant Contact Head Seal, Provided by MCR Engineering
- Highly resilient open celled polyurethane foam side pads
- Wrapped in abrasion resistant flexible PVC fabric
- Profiled to suit all loading dock approach applications
- Wedge profile design to maximise unobstructed access to vehicle
- Vertical yellow guide stripes impregnated in fabric
- Head seal will automatically lower onto roof of docked vehicle
- Head seal will automatically retract when loading dock door is closed
- In-line tube operator provides primary drive
- Parallel counter-weight transmission system provides secondary drive system
- Constant contact environmental seal is maintained with roof of vehicle during loading cycle
- Designed to suit structural clear ope dimensions 2,500mm x 3,000mm
- PVC follower curtain connection between transmission drive and profiled head seal
- Low density open cell foam head pad will provide secure environmental seal
- Profiled head seal enclosure canopy
- Fire retardant materials

Energy, experience and commitment



Dock Port

The loading dock port is a free-standing enclosure designed to interface with the building. It comprises all the components of a complete docking system: dock leveller, dock shelter and sectional door. These elements represent a complete and sophisticated docking system that depending on the individual loading situation offers decisive advantages over conventional internal ramps. They extend the available storage space and at the same time provide the building with thermal insulation. Hot-dip galvanization of the whole steel frame system is standard. Water drainage systems and façade elements matched to your building are also available as optional equipment.

ADVANTAGES OF THE LOADING DOCK PORT

- Thermal separation of the warehouse and the docking system guarantees a significant reduction in energy costs—a very important factor for temperature controlled warehouses and cold stores.
- Easy and fast assembly, surface-fixed to the yard slab, ideally suited for retro-fit applications.
- The cladding consists either of non-insulated trapezoidal sheet or of 40mm insulated panel; it is also possible to use the same material as used for the façade of the building.
- The equipment can be equipped with either a swing lip leveller or with a telescopic lip leveller as well as with various types of dock shelters optimally matched to the individual loading and unloading frequency.
- Thanks to its flexible modular design the MCR dock port can be supplied either as a cost effective multiple system or in the case of limited space available in front of the loading dock as an angular arrangement or as a multiple serial system.
- Additional storage room is available in the warehouse since the whole docking system is placed outside the building.

Energy, experience and commitment



Goods Lifts

For MCR, safety is of paramount importance. Based on this principle we have incorporated in our lift design the latest technological and safety features available.

- Double traction system and double safety cable on the suspension
- Mechanical blocking of the lift car for safety during maintenance operations in the pit.
- Lift doors specific to our platforms with fireproof certification.
- Unauthorized pit access detection that disconnect the platform.
- Pluggable on-lift car push button for maintenance operations only.
- Latch key inhibitor on the push button panel of every floor.
- Overload detection device. Standard on platforms for loads higher than 1,000kg and optional for smaller loads.

ON THE CONTROL PANEL:

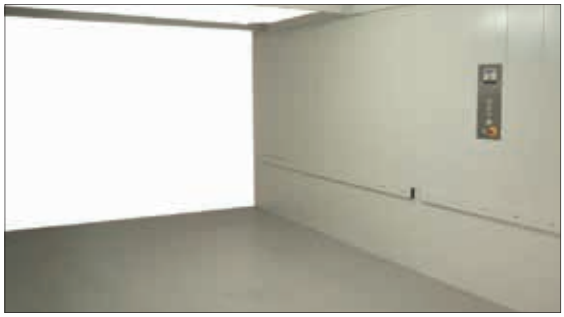
- Lockable main switch with a padlock on the outside of the panel door.
- Lighting circuit switch on the panel door next to the main switch.
- Differential switches for the main circuit and the lighting circuits can be found inside the electrical panel.
- Thermal circuit breaker to protect against over current and short-circuits on the lighting circuit.
- The carrier can be provided with door less lift-car with interior lighting, lateral walls (roof less car) of heights
- Shut-off valve and pressure gauge in all hydraulic power units.

Goods Lifts



GOODS

- Up to 2,5000kg capacity
- Single/double mast construction
- In conformity with machinery directive
- Fully interlocked landing doors



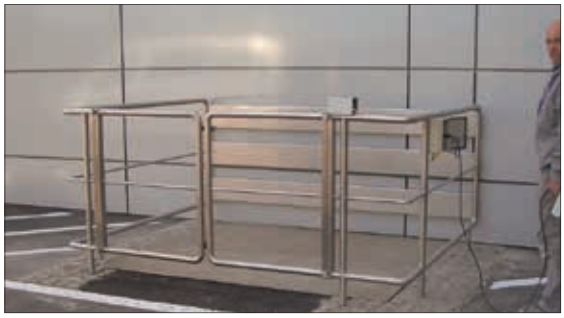
GOODS WITH ATTENDANTS

- Up to 2,5000kg capacity
- Certified for use with attendant
- In conformity with machinery directive
- Standard range of finishes



DISABLED ACCESS

- Fully self supportng structure
- Secure screw drive lift system
- Standard range of finishes
- In conformity with machinery directive



SCISSORS LIFT

- Up to 2,5000kg capacity
- Platform length up to 6,500mm
- Integrated safety gates
- Customised to suit most applications

Goods Lifts



LOADING DOCK SCISSORS LIFT

- Up to 10,000kg capacity
- Powered front lip
- Roll off stop
- Safety rails and gates



SCISSORS LIFT CAR LIFT

- Lifting capacity up to 2,500kg
- Stroke up to 7,000mm
- Platform sixe up to 7,500mm x 2,500mm
- Customised configuration and sizes can be provided



HIGH LIFT SCISSORS LIFT

- Multi stage for high lift capability
- All functions hydraulically operated
- Roll off stop and safety guard rails
- Hydraulically operated front lip



LOW PROFILE U CONSTRUCTION SCISSORS LIFT

- Closed height 80mm
- Capacity 1,000kg
- Designed for pallet lifting
- Platform length 1,200mm



Scissors Lift

PRODUCT FEATURES

- Lift table load capacity up to 25,000kg
- Lift table platform length from 900mm to 5,000mm for the standard design.
- Travel up to 8,000mm
- Comprehensive accessory program with possibilities for tailor-made customer solutions.
- Complies with European safety standard EN 1570-1 - CE certified.
- 24 V DC control unit and operating device with dead man's switch.
- IP54 approved electrical system.
- Safety spacing between all moving parts of the lift table.
- Overload protection.
- Adjustable trap prevention safety trip bars on all four sides of the platform.
- Lift tables is equipped with hose burst valves and mechanical locks for servicing and maintenance.
- Maintenance-free bearing surface.
- PLC control for easy adaptation for individual requirements.

Energy, experience and commitment



Automatic Vehicle Restraint

The MCR vehicle restraint improves safety with strength, convenience and reliability. It is a premium automatic unit designed to secure a trailer at the loading dock by engaging the wheel with a large steel chock. The chock is stored above grade with an integral sensor that when deployed will seek out the rear wheel and automatically provide a secure hold on the trailer preventing forward motion, known as trailer creep, or an unscheduled departure. Simple controls and clear instructions and signal lights make it easy for the operator to position and release the vehicle restraint. Outside signal lights and signage communicate to the truck driver when it is safe to approach and leave the loading dock. The above ground assembly acts as a guide for proper positioning of the incoming trailer.

OPERATION

The trailer is backed into position at the loading dock until contacting the dock bumpers and the driver sets the brakes. The dock attendant pushes a control button, automatically changing the outside light to red and activating the chock. The chock automatically seeks out the rear wheel, securing the trailer to the loading dock. The restraint control system monitors the position of the chock and provides an inside green light only when the trailer is properly secured. When loading or unloading is completed, the dock attendant stores the chock by pushing the release button and the truck is free to leave. At all times, the inside and outside lights indicate the operational mode communication to the truck driver and dock attendant.

CONSTRUCTION

The steel tubular guide and chock assemblies are designed for the severe outside environments and forces exerted by the trailer. The housing and guide system is a welded assembly that attaches to the dock apron with concrete anchors. The entire outside components are zinc protected for corrosion resistance for long life. The drive system includes a heavy-duty hydraulic cylinder driven by a remote mounted motor pump fed with double braided high-pressure hoses. The reservoir comes oil filled with low temperature and/or biodegradable oil for use in all environments. The control panel includes a NEMA rated dust tight enclosure with push button controls, operator instructions and communication lights on the cover.

INSTALLATION

The MCR vehicle restraint is factory assembled and tested, the restraint is mounted on a poured concrete driveway surface with anchor bolts. The signs, control panel and optional components are installed in accordance to instructions contained in the installation and owners manual.

WARRANTY

One year parts and labour warranty from date of substantial completion of the installation. All warranties are subject to standard limitations on liability.

OPTIONS

- Integrated control systems
- Biodegradable fluid
- LED Lights
- Keyed Override Switch
- Riser Assembly



Mobile Ramp

Although most mobile yard ramps are generally of a similar design, it is important to be aware of their individual features, and the potential impact they can have on operations:

- **Usable width:** It is strongly recommended to use a "full width" yard ramp which is the width of a container for the full length of the ramp. Some ramps on the market are narrow for the majority of their length, but flare out at the top. This can require additional positioning and can prevent pallets entering the vehicle parallel. Some yard ramps are supplied narrower to allow them to be shipped in a container, ideally however they should be full width.

- **Capacity:** The industry standard capacity ramp is rated at 10 tonnes, but some manufacturers produce alternative light duty 7-tonne models, and some produce heavy duty 12-tonne, 15-tonne or higher capacity yard ramps dependent upon the customers' requirements.

- A level-off section at the top of the yard ramp is required so that the load is inserted as parallel as possible to the floor of the vehicle, preventing impact with the roof, and also improving visibility for positioning. The working height of mobile yard ramps needs to be adjustable to suit varying vehicle bed heights. The working height will also alter slightly as the vehicle is loaded or unloaded and moves on its suspension. Normally a working range of 1.0 to 1.7 m is considered suitable as that allows the ramp to reach containers at around 1,525mm, down to around 915mm.

- A full width exit lip which sits securely on the bed of the vehicle to allow full width access to the vehicle/container. If the lip is narrower there is a risk of fork trucks falling or getting stuck in gaps between the ramp and vehicle. A few ramps have strengthening ribs on the top of the exit lip which can narrow the usable width and interfere with the loading/unloading operation, preventing the final pallets being loaded with the ramp.

- Fully mobile design with an easily operated tow mechanism; allowing the yard ramp to be quickly and easily manoeuvred into position on the vehicle, or stored away until next needed.

- **Usable width:** This is typically full vehicle width, i.e. around 2.25 m to allow straight access into the vehicle without the need for repositioning at the top of the ramp.

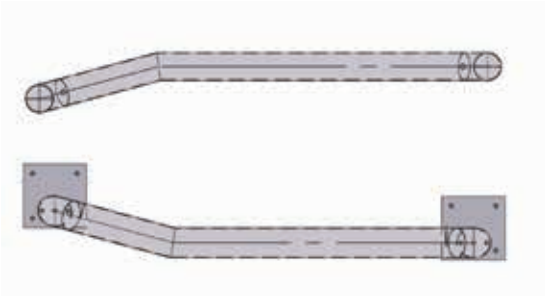
- **The type of fork truck:** 3-wheeled fork trucks for example will put additional pressure on the flooring of the yard ramp. It is also important to check the trucks to be used are capable of running safely on the incline at which the yard ramp will be working at, and have no under clearance problems.

- **Height range:** The maximum recommende incline of a yard ramp is 7 degrees or 1 in 8, though some yard ramps are capable of raising beyond this angle.

- **Movement of the yard ramp:** Yard ramps are typically moved around using a simple tow bar which is pinned into the tow hitch on the back of most standard fork trucks, though some designs offer alternative methods, such as pushing the ramp around using pockets which accept the standard forks of a fork truck.

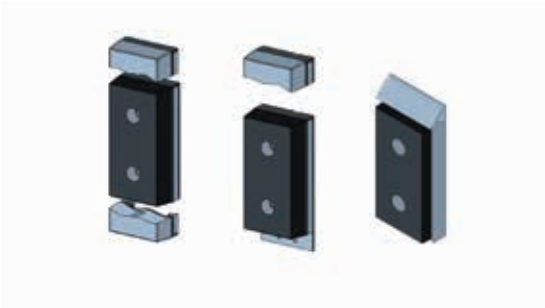
- **Yard surface:** If the ramp is to be regularly towed across rough or stony surfaces, or towed at high speeds then it is preferable to have a ramp fitted with conventional pneumatic tires rather than the cheaper solid tires normally used as standard on many European ramps.

Loading Bay Accessories



VEHICLE GUIDES

- Length 2,000mm straight version
- Length 2,550mm angled version
- Flange mounted
- Galvanised finish



BUFFERS

- Mounted on galvanised steel fixing plate
- Dimensions: 200+400+100
- Optional: 200+600+100
- Optional: floating bumper



DOCK LIGHTS

- Articulated arm
- Wall mounted
- LED
- Shock resistant



TRAFFIC LIGHTS

- Red and green traffic light
- LED
- ABJ console
- 220 volt

Specification

CONTROL UNIT

The MCR control unit has an IP54 protection rating and is equipped with LEDs indicating the applicable maintenance periods. This control unit is prepared for dock leveller release, equipped with two solenoid valves (400 V) and has an auto button; it comes with a 10m cable. Additionally, this control unit is provided with a CEE plug with phase converter enabling connection of additional equipment e.g wheel chocks, traffic lights, dock lights and a door locking feature.

WHEEL CHOCK

The MCR wheel chock equipped with a position dependent ultrasonic sensor and connected to the control unit via a robust cable guarantees safety during the whole loading and unloading process. As soon as one of the rear wheels of the lorry is stopped by means of the wheel chock, the leveller control function is 'released' so that operation of the dock leveller can be started.

TRAFFIC LIGHTS

The risk of serious accidents during loading and unloading does always exist. The combination of wheel chocks with traffic lights provides optimum safety in the loading area at low cost. Moreover, the traffic lights also support the driver during the dock-in process. They indicate the indicate the distance to the dock leveller and thus avoid damage to vehicles, buildings and docking areas.



Revolving Doors

MCR Engineering offers a range of revolving doors for all applications. The MCR range of entrance systems combine form and function to provide a beautiful entrance into all types of building. The range comes with a selection of specially adapted fittings and safety features.

The different models in the range offer a tailor-made solution for buildings in every sector:

- shopping malls
- hotels
- hospitals
- administrative buildings
- airports

and for every user:

- trolleys
- wheelchairs
- stretchers
- heavy traffic
- shop window dressing

All across our range of revolving doors, control and surveillance systems ensure maximum operational safety:

- radars
- horizontal and vertical rubber strips safeties
- infrared curtains

A system designed for disabled users can be installed, prompting the wings to slow down and ease their passage through.

- sliding doors
- telescopic doors
- full breakout doors
- round/curved doors
- revolving doors
- hospital doors
- fireproof doors

Entrance Systems



REVOLVING DOOR

- All glazed revolving door
- Automatic/manual
- 3/4 WING TYPE
- Stainless steel/standard range RAL colours



SEMI CIRCULAR SLIDING DOOR

- Cylindrical all glazed construction
- Bi-parting glazed doors
- Fully interlocked
- Stainless steel/ Standard RAL colours



BI-PARTING SLIDING DOOR

- Opening speed up to 1,000mm/sec
- All glazed construction
- Security locking device
- Stainless steel/Standard RAL colour



TURNSTILES

- Security personnel turnstile
- Single double rotor type
- Suitable for security access interface
- Stainless steel/Standard RAL colour

Entrance Systems



SWING DOOR OPERATOR

- Electro-mechanical operator
- Power open, spring close cycle
- Articulated or sliding arm mechanism
- Torque resistance safety opening feature



PERSONNEL SECURITY BARRIER ROTATING TYPE TELESCOPIC TYPE

- Secured control personnel access
- Manual override in event of emergency
- Stainless steel finish
- Range of activation options



PERSONNEL SECURITY BARRIER ROTATING TYPE

- Rotating tripod mechanism
- Stainless steel finish
- Manual override
- Range of options



FULL HEIGHT TURNSTILE

- Single or double entry access/entry exit
- Galvanised or painted finish
- Controlled security access
- Can be interfaced with security system

Energy, experience and commitment



Entrance Systems



CANTILEVER SLIDING GATES

- Passage widths up to 10,000mm
- Security perimeter entrance gates
- Electrically operated/manual override
- Galvanised/Standard RAL colour



HIGH SPEED FOLDING GATES

- Bi-parting high speed entrance folding gate
- Trackless construction
- Passage width up to 4,000mm
- Electro-mechanical concealed drive assembly



GROUND TRACK SLIDING GATE

- Passage widths up to 20,000mm
- Double/single leaf on ground track
- Electrically operated manual/override
- Galvanised/ standard RAL colour



AUTOMATIC BI-PARTING SWING GATES

- Single leaf and bi-parting
- Bar or solid panel infill
- Passage width up to 30 m
- Auto open and close facility

MCR Engineering:
Industrial Engineering Division

Our core area of business is the project management, design, manufacture and installation of industrial engineering solutions. Ranging from one-off machined components to complete pharmaceutical production room and changing room fit-outs.

MCR Engineering work with precision and fine finish on each and every project.

We set very high standards for ourselves and deliver time and time again to our customers operating in the following sectors: Pharmaceutical, Food & Beverage industries, Chemical, Electronics and Semi State Government organisations.

In addition, we perform prototyping, engineering and design of new projects and the study and realization of equipment using the latest Cad 3D Modelling and Engineering solutions according to the client specifications.

We have an extensive portfolio of Projects and Clients in particular within the Pharmaceutical and Food & Beverage sectors where standards are extremely high. We also have our own fabrication workshop and access to packaging technology, pallet technology, lifting and handling equipment, automated washers and automated guided vehicles through our Automation division.

Industrial Engineering
Industrial Automation
Stainless Steel Fabrication
Precision Machining
Project Management
GMP
Research & Development

> “Forest Labs has a longstanding relationship with MCR Engineering as one of our key stainless steel manufacturing and project service providers. They have consistently delivered engineering solutions tailor-made to our demanding Pharmaceutical GMP environment here in Forest Labs. MCR meet each project with a professional ‘Can Do’ approach and I would highly recommend MCR Engineering.”

Robert Wilson, Equipment Maintenance Supervisor, Forest Laboratories Ireland





Beverage Industry
(Soft drinks and alcohol sectors)

The Problem: Existing Case Packer Stems were breaking during the packaging process causing down time and interfering with the flow of the production line.

The Solution: A new case packer stem was designed, manufactured and tested. This proved to eliminate further breakages.

The Outcome: Production was improved with better line efficiencies, removing the need for intervention by the engineering department.



Pharmaceutical Industry

The Problem: Spray nozzle body was damaged with an immediate requirement for use in production.

The Solution: The stainless steel 316 spray nozzle was assessed, repaired and returned back for production on the same day.

The Outcome: Minimal delay to production due to a fast turnaround repair.



Pharmaceutical Industry

The Requirement: A complete overhaul was required on a Y cone blender including assessment, modification, re-welding and polishing to a very high GMP standard.

The Solution: The project was assessed by the MCR Engineering team and using multi-departmental skills and expertise, a bespoke engineering solution was provided.

The Outcome: The complete project was handled from start to finish under very strict time constraints, minimizing the amount of downtime.



Pharmaceutical Industry

The Problem: Stainless steel 316 L bespoke production vessels required by a leading pharma client.

The Solution: The stainless steel 316 mirror finish vessels were designed, manufactured and supplied by our engineering team.

The Outcome: A high quality solution supplied with a high GMP pharmaceutical finish.



Beverage Industry (Water)

The Problem: Excessive leaking of Existing Fill tubes on Filler. The original equipment manufacturer (OEM) had no alternative solution to fix the problem.

The Solution: Assessment by our Engineering team came up with a Stainless Steel 316 fill tube design which substantially reduced product loss.

The Outcome: Reduction of lost product by approximately 80%.

MCR Engineering:
End of Line Automation

Offering a complete service from pre-planning design through to manufacture, installation and handover, MCR Engineering is the leading Irish company providing specialist 'End of Line – Automation' equipment to the manufacturing sector.
We also lead the market in the supply and installation of doors, docks and lift solutions, as well as entrance systems.

We are an engineering company that provides innovative solutions. Each year we complete projects from pre-planning design through to manufacture, installation and handover.

- Project Management (by us)
- Complete Solutions
- After-sales machinery servicing

Our culture is to deliver commercially and economically sustainable solutions for our clients. Whatever the challenge we have the expertise and resources.

Our customer profile is extensive, from retail commercial to industrial and this is all supported by our truly nationwide service engineering team. How can we help your business?

Systems Integrator

We are a 'systems integrator' bringing together the full package of machinery and controls for each engineering project, to give the complete solution.

We have the technical expertise and the resources to deliver winning results – every time.

- Solutions
- Unique Concepts
- Full Engineering Team
- Installation
- Project Management (by us)
- Complete Solutions
- After-sales machinery servicing

> "We found MCR Engineering to maintain a high standard of quality, integrity and innovation in all their operations. They can consistently meet programme and maintain a safe, motivated workforce. We would have no hesitation in using them on any of our projects."

Migdo Natal, Automation Manager Ireland, Nypro Healthcare.



MATERIAL HANDLING

- Vacuum lifting equipment
- Special tilt tables
- Lifting aids
- Special lift equipment
- Ergomomic work stations
- Safety barriers



PALLET HANDLING SOLUTIONS

- Pallet conveyors
- Pallet inverters
- Pallet exchangers
- Pallet elevators
- Pallet managers
- Pallet lift tables



PACKING EQUIPMENT

- Bag in Box systems
- Bag decuffer sealer systems
- Case & Tray erecting
- Case sealing
- Cartoning machines
- Strapping & Banding
- Pick & Place robots

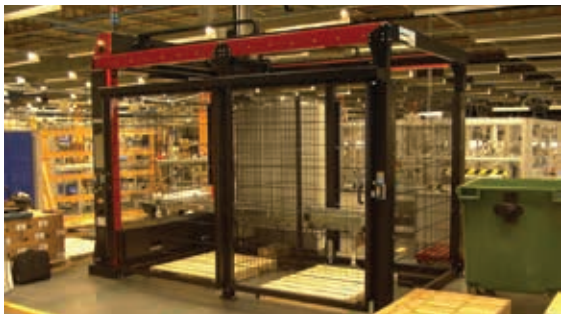


AGV TRANSPORT SYSTEM

- Forklift AGVs
- Conveyor deck
- Automatic trailer loading

Energy, experience and commitment





PALLETIZING SYSTEMS

- Gantry robots
- Articulated robots
- Layer palletisers
- Semi-Auto palletisers
- Turnkey solutions



STRETCH WRAPPING SYSTEMS

- Semi-Automatic wrapper
- Fully-Automatic wrapper
- Automatic wrapping lines
- Orbital wrapping systems
- Horizontal wrapping systems
- Spiral wrapping systems



AUTOMATED WASHING SYSTEMS

- Tray washers
- Pallet washers
- IBC washers
- Small parts washers
- Drum washers



CONVEYING SYSTEMS

- Roller conveyors
- Belt conveyors
- Gravity conveyors
- Lifts & Transfers
- Conveyor lift gate

SERVICE

The MCR Promise

Besides providing products and systems, you can also contact MCR Engineering for an extensive range of service programme options. Our service concept focuses on a full service programme 24 hours per day, seven days per week.

EFFICIENCY, COMFORTABLE WORKING CONDITIONS AND SAFETY
We manufacture products developed by our own Research and Development department. To ensure you always receive the best products we only use the highest quality materials in conjunction with the most technologically advanced manufacturing processes. We never lose track of the actual application of the products and we ensure your logistics environment achieves optimal accessibility and practicality. Efficiency, effectiveness, comfortable working conditions and safety are our priorities.

ONE PARTNER FOR ALL YOUR NEEDS
When it comes to arranging the layout of the loading and unloading bay area, MCR has a proven track record of being a leading and reliable consultancy partner. Once you have chosen your solution, you can rely on us to deliver and install the products. We fully understand the importance of delivering the programme and failure to achieve the completion date is never an option. After completion, we provide a guarantee and all of the relevant supporting documentation for the end user. We can also advise you on the recommended maintenance and service schedules specifically tailored to your usage rates and operational requirements. We take care to ensure that after completion of the installation stage that you continue to achieve the optimal usage of your investment.

Our expertise and experience in this field means we are able to repair, replace and maintain dock equipment and industrial doors manufactured not only by MCR but also by all other leading manufacturers. When you call on MCR services you can be assured that we will do everything possible to bring your equipment back on line so that you can continue using your equipment with minimal disruptions to your operations.



MCR Engineering and MCR Group

Offering a complete service from pre-planning design through to manufacture, installation and handover.

MCR Engineering are part of MCR Group, one of the largest providers of outsourced staff and services in Ireland, the UK and the Middle East. MCR Group provide a broad range of service solutions through a number of professional subsidiary companies including **Personnel, Cleaning, Security, Flooring** as well as **Engineering**, currently employing a workforce of over 1,500 employees.

MCR Engineering provide contemporary and innovative engineering solutions, delivered on time, exactly to our clients requirements and specifi cations. We offer a complete service from pre-planning design through to manufacture, installation and handover. We operate a team of Engineers, 24 hours a day. MCR Engineering lead the market in the supply and installation of doors, docks, lift, industrial and automation equipment.

MCR Group
Head Office
1 The Capel Building,
Dublin 7, Ireland.

t: 353 1 889 9100
f: 353 1 481 1500
e: info@mcrgroup.ie
w: www.mcrgroup.ie

Other Offices at:
Galway
Cork
Limerick
Tullamore
Wexford
Belfast
Newry
London



Our clients include

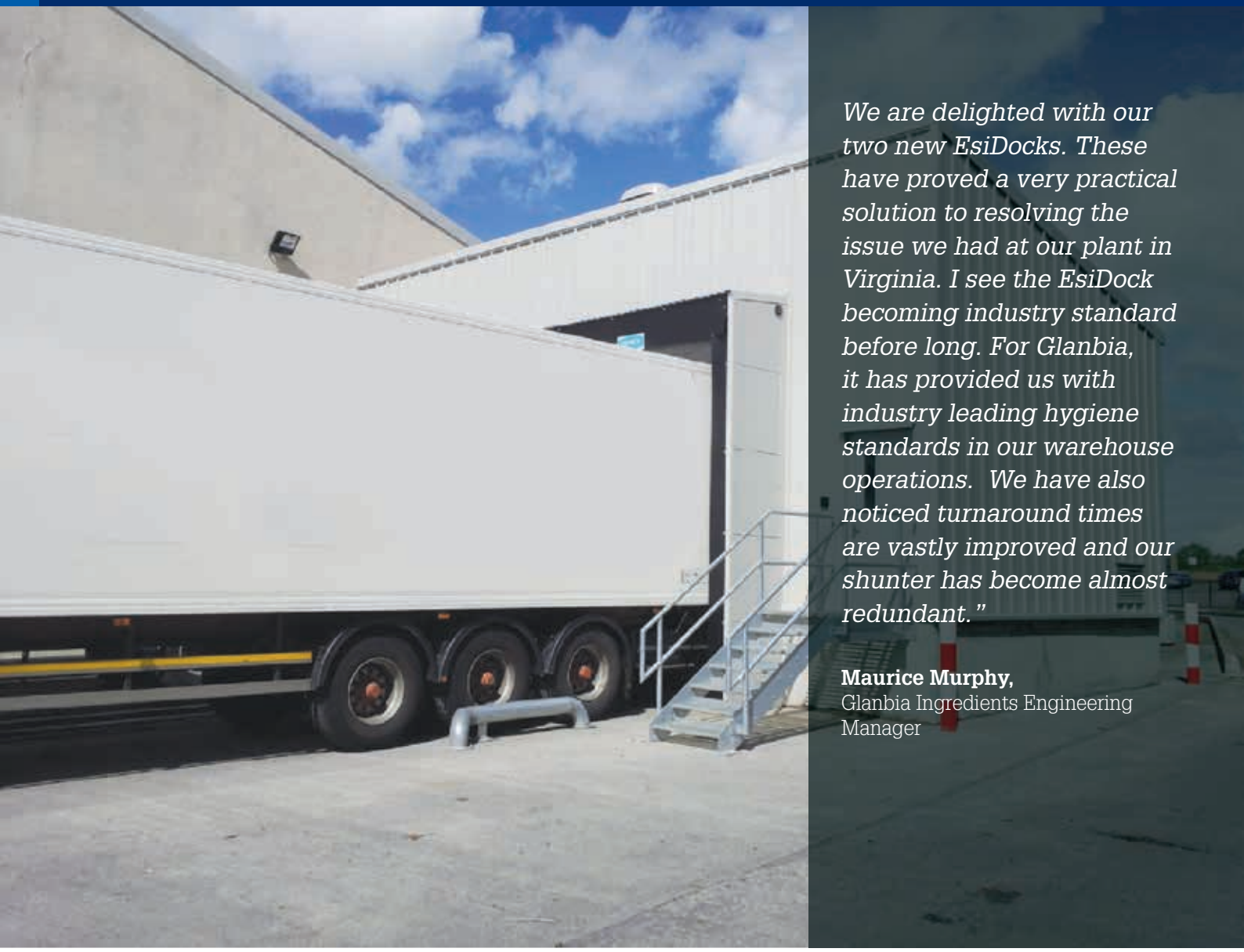
Abbott
ABM Construction
ABP Foods
ADI Group
Aecom
Aer Lingus
Agrigear
Alba Logistics
AMGEN
An Post
Apple
Aramark
Aran Candy
Ardmac
Arkopharma
Arup Engineers
Arvato
Aryzta
Asgard Cleanroom Solutions
Atlantic Industries
Avoca Productions
Ballina Beverages
Bam Contractors
Barclay Chemicals
Bausch & Lomb
BBB Neriki
Becton Dickinson
Bennett Construction
Boran Plastics
Bord Na Mona
Boston Scientific
Boyne Valley Foods
C&D Foods
Cadburys
Carroll Cuisine
CBRE
Central Mint
Clancy Construction
Clearsphere
Collen Construction
Covidien
Culina Logistics
Dairygold
Danone
Dansko Foods
Dawn Farm Foods
DePuy Ireland
Designer Group
Duggan Brothers
Duggan Lynch
Eli Lilly
Finnebrogue
Flextronics
FMC Biopolymer
Forest Laboratories
Frank Keane Motors
Ganson Construction
GEM Construction
Gerard Laboratories
Glanbia
GlaxoSmithKline
Gleeson Group
Glenhaven Foods
Google
H2 Group
HA O'Neill
Hafele
Healy Chemicals
Holden Installations
Holfeld Plastics
HSG Bilfinger
Irish Country Meats
Irish Distillers
Irish Pride Bakeries
Jacobs Engineering
John Paul Construction
John Sisk & Son
Johnson Controls
Jones Lang LaSalle
JZ Flowers
Kepak
Kerry Foods
Kuehne & Nagle
Lagan Cement
Lake Region
Leo Laboratories
Lynch & Associates
MAC Interiors
Mace Group
Manley Construction
MDY Construction
Meade Potato Company
Medite
Merck Millipore
Mercury Engineering
Microsoft Ireland
MMD Construction
Modubuild
Monaghan Mushrooms
Munster Joinery
Mythen Construction
Newbridge Foods
Newcold
Noonan Group
Nutricia
Nutrition Supplies
Nypro
Odlums
O'Hare & McGovern
OPW
Paperlinx
Parsons Building Services
Patisserie Royale
Penn Engineering
PepsiCo
Pfizer
Pipelife Quality Plastics
PJ Hegarty
PM Group
Pritchitts Foods
PRL Group
Procter and Gamble
Purcell Construction
RAP Packaging
Red Mills
Rexam
Robert A. Merry
Robotics & Drives
Rohan Holdings
Rottapharm
Ryanair
Rye Valley Foods
Savills
Schlotter
Semiton
Servier Industries
Shannon Transport Logistics
Siac Construction
Smartply
Sphere Global
Spicers
Stewart Building Contractors
Structuretone
Stryker
SuperValu
Tech Group
Telecity
Tender Meats
Tesco Ireland
Total Produce
Uniphar
United Drug
Valeo Foods
Walls Construction
Wexford Creamery
Winthrop Engineering
Wrap-It Packaging
Xtratherm
Yves Rocher
Zeus Packaging



MCR Engineering

Excellence in **Loading Dock Technology**

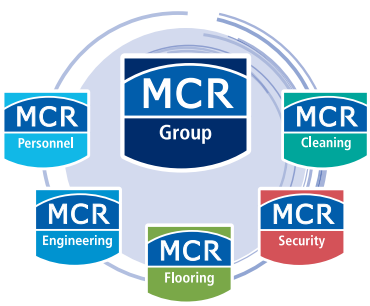
Energy, experience and commitment



We are delighted with our two new EsiDocks. These have proved a very practical solution to resolving the issue we had at our plant in Virginia. I see the EsiDock becoming industry standard before long. For Glanbia, it has provided us with industry leading hygiene standards in our warehouse operations. We have also noticed turnaround times are vastly improved and our shunter has become almost redundant."

Maurice Murphy,
Glanbia Ingredients Engineering Manager





MCR Group
Head Office
1 The Capel Building,
Dublin 7, Ireland.

t: 353 1 889 9100
f: 353 1 481 1500
e: info@mcrgroup.ie
w: www.mcrgroup.ie

Other Offices at:
Galway
Cork
Limerick
Tullamore
Wexford
Belfast
Newry
London