

## **PRODUCT SELECTOR**

# **AIRPORTS**

Drainage systems for airside and landside applications.





## **World Leader**

## Reliable Performance

A world leader in the manufacture of modular surface drainage systems, HAURATON drainage products have been supplied onto major projects within international markets for over sixty-five years.

We developed our first linear drainage system in 1956. Since that time the HAURATON brand has become known around the world as a benchmark for quality, reliability, durability and service.



## **Environmentally Aware**

HAURATON has environmentally sound production facilities, processes and procedures.

RECYFIX® systems are manufactured from recycled Polypropylene (PP), which is 100% recyclable following life-time use.

HAURATON drainage systems can assist in the assignment of credits based on the BREEAM and LEED rating systems. HAURATON maintains an Environmental Management System according to DIN EN ISO 14001:2015

Refer to HAURATON for further information.







# Surface Drainage

## **Product Range**

HAURATON offers a wide range of external surface drainage systems and water technology products suitable for a variety of project applications, including residential, commercial, municipal, industrial, military, transport and major infrastructure projects.

**RECYFIX®** - A robust, high-performance range of channel systems in corrosion-resistant composite materials (PP, PA-GF). HAURATON is the innovator and market-leader in this field and provides the widest range of commercial-grade composite channel systems available.

**FASERFIX®** - Strong and durable drainage channels in Fibre Reinforced Concrete (FRC).

**AQUAFIX®** - A modern, efficient and versatile range of separators in composite materials (PP, PE), steel and concrete; for sustainable preservation of vital resources.

**DRAINFIX®** - Stable, safe and cost-effective infiltration and water storage systems.

**DACHFIX®**, **DRAINFIX®**CLEAN, **RECYFIX®**TRAM and **SERVICE Channels** are specialist ranges available for unique applications.

Customised Drainage Solutions are also available for projects with special requirements.

HAURATON channel systems can be supplied with a variety of functional, decorative and HeelSafe gratings or with discreet 'longitudinal' slot channel designs, for load-class applications from A15 up to F900, offering significant choice and flexibility.

With superior design and engineering, HAURATON sets the industry standard with high-quality, visually aesthetic and technically innovative products that meet project requirements and complement modern building and landscape design.

#### **Product Selectors**

Our Product Selector's have been designed to provide industry professionals with a quick, simple and clear guide to choosing the appropriate HAURATON system to suit their project requirements.

Each Product Selector include's project applications with similar needs regarding loading and system performance:

- Roof Terraces, Balconies & Facades
- Public Realm & Shared Space
- Car Parks & Commercial
- Industrial
- Ultra-Heavy-Duty
- Airports
- Ports & Terminals









# Airports - Airside

Drainage systems for 'safety-critical' environments subject to harsh conditions, 'ultra-heavy-duty' loads and extreme dynamic forces.

## **System Requirements**

'Airside' environments typically include the following characteristics:

- High safety requirements; monolithic systems, retained gratings / covers, no F.O.D. (Foreign Object Debris).
- High loads; F900 (wheel, static, impact and dynamic).
- Intense traffic patterns (variety, frequency, speed, acceleration, braking, turning, angled approach).
- Varied wheel type and configuration (small, solid, pnuematic, single, multi-tyre, single-axle/doubleaxle/multi-axle, single and multiple undercarriage arrangements etc).
- High surface water run-off (high rainfall, extensive catchment areas).
- Corrosive environments (saline conditions, ground sulphates, high humidity, extreme temperatures, strong UV radiation, sand abrasion, de-icing solutions, aviation fuels, chemicals etc).
- High-performance surfaces (concrete, high-spec asphalt).
- Cost-effective installation and maintenance.

HAURATON systems meet and exceed the requirements for 'airside' applications on airports and have high-level resistance when subject to such corrosive conditions.

## **Typical Applications**

Applications in airport 'airside' areas include:

- Runway & Taxiway
- Aircraft Stands & Aprons
- Aircraft Parking
- De-Icing Platforms
- Fuel Farms
- Terminals & Roads (Airside)
- Hangars & Maintenance Areas
- Helicopter Landing Pads
- Warehouse, Distribution & Logistics Centres





CIVILS



## **FASERFIX®**SUPER

A strong, durable and reliable grated channel system in fibre-reinforced concrete, with a proven structural design for superior resistance to dynamic forces and extreme loads.

**FASERFIX**®SUPER has a higher specification compared to alternatives, for assured performance and reduced maintenance costs during all stages of the projects life. Refer to product brochure for detailed information.

## **Key Features**

#### Material

■ Fibre-reinforced concrete

#### Loading

■ Channel body load rated to F900 (EN 1433: 2002)

#### **Channel Widths**

■ 100, 150, 200, 300, 400 & 500 mm

## **Channel Lengths**

■ 1.0m & 500mm (selected depths)

## **Grating Options**

- Inlay design
- D400, E600 & F900 (EN 1433: 2002)
- Spheroidal ductile iron GJS 500-7 'EN1563'
- Slotted grating
- GUGI-mesh grating
- Solid cover
- KTL 'cathodic dip' coating (optional)

## **Channel Configuration**

- Constant-depth (same channel depth)
- Built-in fall (150, 200, 300)
- Stepped-fall

## **Edge Detail**

Two options:

- Galvanised steel S275J263+Z
- Spheroidal ductile iron GJS 500-7 'EN1563' (KTL 'cathodic dip' coated).











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## FASERFIX®BIG BL

Cast from high-performance 'HRS' cement concrete, **FASERFIX**®BIG BL has a mega-monoblock design incorporating the channel surround, base and steel reinforcement cage within a single rigid 'concrete beam' structure for increased strength, stability and high resistance to impact loads.

**FASERFIX**®BIG BL is estimated to be ten times quicker to install (F900 locations) compared with alternative systems. Refer to product brochure for detailed information.

## **Key Features**

#### Material

'HRS' cement concrete

#### Loading

System load rated to F900 (EN 1433: 2002)\*Units tested up to 2000kN without failure

#### **Channel Widths**

■ 100, 150, 200 & 300 mm

### **Channel Lengths**

4.0m & 1.0m

## **Grating Options**

- Inlay design
- D400, E600 & F900 (EN 1433: 2002)
- Spheroidal ductile iron GJS 500-7 'EN1563'
- Slotted grating
- GUGI-mesh grating
- Solid cover
- KTL 'cathodic dip' coating (optional)

## **Channel Configuration**

■ Constant-depth (same channel depth)

## **Edge Detail**

■ Galvanised steel S275J263+Z













## **SERVICE** CHANNELS

HAURATON SERVICE Channels provide a safe, practical and durable solution for the management and routing of underground cables, utilities and services. The system is supplied with a range of modular accessories including cable trays and junction boxes for easy access and flexible 'space-efficient' design.

SERVICE Channels can be configured from either **RECYFIX**® or **FASERFIX**® systems, with the most suitable type and size of channel selected to suit specific project requirements.

## **Key Features**

#### Material

- **RECYFIX**® channels in modified Polypropylene (PP)
- FASERFIX® channels in fibre-reinforced concrete

#### Loading

- Polypropylene (PP) channels load rated to E600
- Fibre-reinforced concrete channels load rated to E600 (EN 1433: 2002)

#### **Channel Widths**

■ 100, 200, 300, 400 & 500 mm

#### **Channel Lengths**

1.0m

## **Cover Options**

- Inlay design
- Solid covers (anti-slip)
- A15 & E600 (EN 1433: 2002)
- Galvanised steel 'chequer plate' (A15)
- Spheroidal ductile iron GJS 500-7 'EN1563'
- KTL 'cathodic dip' coating (optional)
- Side-Lock boltless locking mechanism

#### **Channel Configuration**

■ Constant-depth (same channel depth)

- Galvanised steel S275J263+Z
- Spheroidal ductile iron GJS 500-7 'EN1563' (KTL 'cathodic dip' coated)











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## RECYFIX®HICAP®F SLOT CHANNEL

Manufactured from high-grade modified Polypropylene (PP) composite, **RECYFIX**®HICAP®F SLOT CHANNEL is a high-capacity linear drainage system used to provide efficient and cost-effective drainage and attenuation within extensive hard surface areas. Refer to product brochure for detailed information.

## **Key Features**

#### Material

- Modified Polypropylene (PP) Composite
- Some components in Polyamide (PA-GF)

### Loading

System load rated to F900 (EN 1433: 2002)

#### **Channel Sizes**

■ HICAP®F 1000, 2000, 3000, 5000, 8000 & 10000

#### **Channel Lengths**

■ 1.0m & 1.145m (RECYFIX®HICAP®F 10000)

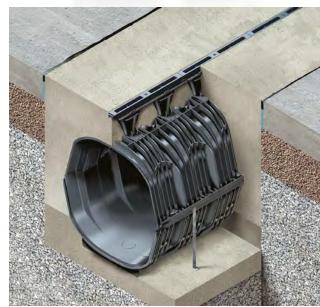
#### **Grating Options**

- Retained grating design (non-removable)
- D400 & F900 (EN 1433: 2002)
- Spheroidal ductile iron GJS 500-7 'EN1563' (KTL 'Cathodic Dip' Coated)
- Slot 14mm
- Slot 28mm

## **Channel Configuration**

- Constant-depth (same channel depth)
- Stepped-fall
- \*This system is especially resilient to dynamic forces caused by the turning/twisting action of wheels.













## RECYFIX®TRAFFIC GUGI®BLOC

**RECYFIX**®TRAFFIC GUGI®BLOC incorporates an elevated grating structure (120mm high) in spheroidal ductile iron GJS 500-7, designed for maximum strength and durability to withstand dynamic forces and heavy-duty loads (E600kN). **FASERFIX**®TRAFFIC GUGI®BLOC is available for F900kN load applications.

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The 'grating-to-channel body' connection (eight fixings per metre) sits deep underground, achieving a monoblock type structure (no removable gratings) for high-security and improved safety for vehicles and pedestrians. Refer to product brochure for detailed information.

## **Key Features**

#### **Material**

- Polypropylene (PP) composite
- Fibre-reinforced concrete

### Loading

- RECYFIX®TRAFFIC system load rated to E600
- FASERFIX®TRAFFIC system load rated to F900 (EN 1433: 2002)

#### **Channel Widths**

- RECYFIX®TRAFFIC 200 & 300 mm
- FASERFIX®TRAFFIC 150 mm

#### **Channel Lengths**

■ 1.0m & 500 mm (selected depths)

#### **Grating Options**

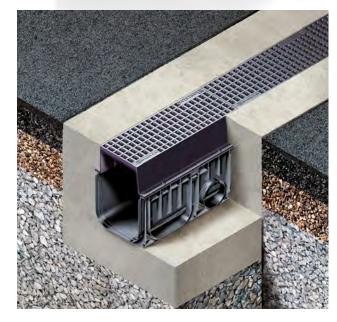
- Elevated grating structure (none-removable)
- D400 & F900 (EN 1433: 2002)
- GUGI®BLOC 'mesh grating' design
- Spheroidal ductile iron GJS 500-7 'EN1563'

## **Channel Configuration**

- Constant-depth (same channel depth)
- Stepped-fall

- GUGI®BLOC grating
- Spheroidal ductile iron GJS 500-7 'EN1563'
- Durable edge; impact resistant













## **RECYFIX®NC**

**RECYFIX**®NC combines heavy-duty (E600kN) loading capability with practical design, easy handling, quick installation and high-performance on site.

**RECYFIX**®NC has a polypropylene edge-frame incorporated within the channel body structure, for improved durability and resilience when trafficked. The system is supplied to site as a fully assembled unit, with heavy-duty slotted gratings (spheroidal ductile iron GJS 500-7) securely bolted within the edge-frame housing (eight steel bolts per metre) for extra strength and safety. Refer to product brochure for detailed information.

## **Key Features**

#### **Material**

Polypropylene (PP) composite

#### Loading

System load rated to E600 (EN 1433: 2002)

#### **Channel Widths**

■ 100, 150, 200, 300 & 400 mm

## **Channel Lengths**

■ 1.0m & 500mm (selected depths)

## **Grating Options**

- Inlay design
- D400 & E600 (EN 1433: 2002)
- Spheroidal ductile iron GJS 500-7 'EN1563'
- Slotted grating

## **Channel Configuration**

- Constant-depth (same channel depth)
- Stepped-fall

- Polypropylene edge-frame
- Integral part of channel body structure













## **SERVICE** CHANNELS

HAURATON SERVICE Channels provide a safe, practical and durable solution for the management and routing of underground cables, utilities and services. The system is supplied with a range of modular accessories including cable trays and junction boxes for easy access and flexible 'space-efficient' design.

SERVICE Channels can be configured from either **RECYFIX®** or **FASERFIX®** systems, with the most suitable type and size of channel selected to suit specific project requirements.

## **Key Features**

#### Material

- **RECYFIX**® channels in modified Polypropylene (PP)
- FASERFIX® channels in fibre-reinforced concrete

### Loading

- Polypropylene (PP) channels load rated to E600
- Fibre-reinforced concrete channels load rated to E600 (EN 1433: 2002)

#### **Channel Widths**

■ 100, 200, 300, 400 & 500 mm

## **Channel Lengths**

1.0m

## **Cover Options**

- Inlay design
- Solid covers (anti-slip)
- A15 & E600 (EN 1433: 2002)
- Galvanised steel 'chequer plate' (A15)
- Spheroidal ductile iron GJS 500-7 'EN1563'
- KTL 'cathodic dip' coating (optional)
- Side-Lock boltless locking mechanism

#### **Channel Configuration**

■ Constant-depth (same channel depth)

- Galvanised steel S275J263+Z
- Spheroidal ductile iron GJS 500-7 'EN1563' (KTL 'cathodic dip' coated)













# Airports - Landside

Drainage systems for environments that require safe, practical, durable solutions with aesthetic design

## **System Requirements**

Airport 'landside' areas typically include the following characteristics:

- Medium to ultra-heavy-duty loads (C250 F900); depending on location (wheel, static, impact and dynamic). Channels at the base of ramps subject to high impact, so heavier load rating required (D400 & E600). Pedestrian use is intensive, so medium-duty (C250) systems should be selected for these areas.
- Medium to high traffic flow; varied traffic patterns (frequency, speed, acceleration, braking, turning, angled approach). Channel installations in parking areas are subject to regular traffic with wheels turning on gratings, imposing dynamic forces.
- A variety of landside applications subject to varied wheel types and configurations (trollies, small-wheel, solid tyre / pneumatic tyre, passenger and service vehicles with single-tyre / multi-tyre / single-axle / double-axle).
- Public areas subject to constant use requiring surface drainage system design to be strong, durable, practical and functional for long-term high performance.
- Safe, secure environments for travellers and airport personnel is paramount. Systems require hydraulically efficient and user-friendly 'HeelSafe' gratings, monolithic design or 'tamper-free' security locking, and surface features that allow barrier-free access for trolleys, prams and mobility aids.
- Modern airports are often innovative and iconic, requiring high-quality systems that incorporate discreet or aesthetic surface details to complement the contemporary design style of terminal buildings and associated outdoor spaces with a variety of surface finishes and landscape features. Customised drainage solutions are often required to suit unique architectural designs.
- Multi-level spaces with complex structural designs, airport terminals often require shallow channel systems for multi-storey parking areas, raised walkways, mezzanine floors etc.
- Corrosive environments dependent on location. Systems available in durable and corrosion resistant materials.
- Cost-effective installation and maintenance.

HAURATON systems meet and exceed requirements for a variety of 'landside' applications on airports, with a versatile range that provides total design flexibility.

## **Typical Applications**

Applications in airport 'landside' areas include:

- Terminals (Airport, Rail, MRT)
- Public Spaces
- Access Roads
- Parking Areas (Cars, Taxis, Coaches, Other)
- Petrol Filling Stations
- Hotels & Commercial Centres
- Business Parks
- Helicopter Landing Pads
- Warehouse, Distribution & Logistics Centres





AQUA



## **FASERFIX®KS**

Cast from fibre-reinforced concrete, FASERFIX®KS is a strong and durable 'general-purpose' channel system designed for use in a variety of applications (usually C250 - E600).

FASERFIX®KS has thicker sidewalls (30mm) compared with alternatives. A metal edge-frame (galvanised or stainless steel) cast deep within the channel body achieves a rigid and discreet edge-detail for extra strength and enhanced aesthetics. Gratings are fixed into position with a 10-point locking system (SIDELOCK plus central bolt and bar arrangement) for added safety, stability and security. Refer to product brochure for detailed information.

## **Key Features**

#### Material

■ Fibre-reinforced concrete

#### Loading

- Channel body load rated to F900 (EN 1433: 2002)
- System typically installed in E600 load environments
- Suitable for F900 environments (light traffic only)
- Refer to FASERFIX®SUPER for F900 environments (heavily trafficked)

#### **Channel Widths**

■ 100, 150, 200 & 300 mm

#### **Channel Lengths**

■ 1.0m & 500 mm (selected depths)

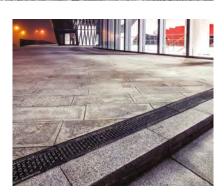
#### **Grating Options**

- Inlay design
- Load options ranging from A15 F900 (EN 1433: 2002)
- Variety of grating designs and material's available

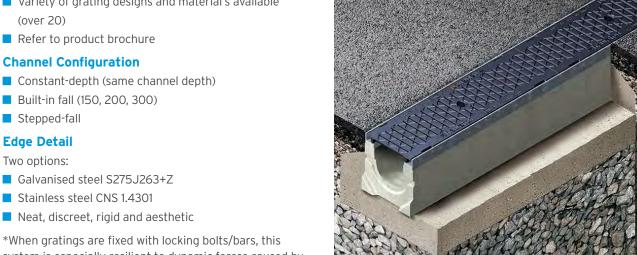
\*When gratings are fixed with locking bolts/bars, this system is especially resilient to dynamic forces caused by the turning/twisting action of wheels.















## **RECYFIX® MONOTEC**

Designed and installed as a single monolithic unit, **RECYFIX**®MONOTEC is quick and easy to install and provides a stable, safe and secure surface environment for users. **RECYFIX**®MONOTEC is lighter and has higher drainage capacity compared with alternative mineral-based systems (for equivalent channel sizes and installed dimensions).

Manufactured from reinforced Polypropylene (PP) composite, channel units are strong, durable and UV-stable, with high impact, chemical and corrosion resistance for low-cost maintenance during life-time use. Refer to product brochure for detailed information.

## **Key Features**

#### Material

■ Reinforced Polypropylene (PP) composite

#### Loading

System load rated to D400 (EN 1433: 2002)

## **Channel Widths**

■ 100 & 200 mm

## **Channel Lengths**

1.0m

## **Grating Options**

- Monolithic channel with integral grating
- **D**400 (EN 1433: 2002)
- Slotted grating design (FIBRETEC® style)
- Reinforced Polypropylene (PP) composite

## **Channel Configuration**

- Constant-depth (same channel depth)
- Stepped-fall

## **Edge Detail**

■ Monolithic design; channel edge and grating combined

\*Not suitable for E600kN and F900kN load applications subject to traffic by forklift trucks and HGV's.













## **RECYFIX®STANDARD**

Lightweight, cost-effective and versatile, **RECYFIX**®STANDARD is perfect for areas subject to heavy pedestrian use and occasional traffic by medium load vehicles.

**RECYFIX**®STANDARD includes a visible edge detail for enhanced rigidity at the surface.

Available in nominal widths from 100mm to 300mm, and with a variety of 'lay-on' grating designs and materials, **RECYFIX®STANDARD** provides a practical and economic option for linear drainage. Refer to product brochure.

## **Key Features**

#### Material

■ Modified Polypropylene (PP) composite

## Loading

System load rated to C250 (EN 1433: 2002)

#### **Channel Widths**

■ 100, 150, 200 & 300 mm

## **Channel Lengths**

■ 1.0m & 500mm (in some sizes)

## **Grating Options**

- Lay-on design
- Load options ranging from A15 C250 (EN 1433: 2002)
- Variety of grating designs and material's available
- Refer to product brochure

## **Channel Configuration**

- Constant-depth (same channel depth)
- Stepped-fall

## **Edge Detail**

■ Integral polypropylene edge (visible on the surface)













## **RECYFIX®PRO**

A medium-duty system with practical design suitable for a variety of applications up to D400 loading. When fitted with a composite grating, **RECYFIX®PRO** is fully corrosion resistant, non-conductive and anti-static; reducing long-term maintenance costs and avoiding expensive earthing works.

**RECYFIX**®PRO incorporates a discreet polypropylene edge-frame formed as part of the channel body structure, for improved rigidity and enhanced aesthetic appearance. The system is pre-assembled, lightweight and compact for quick and easy installation on site. Refer to product brochure for detailed information.

## **Key Features**

#### Material

■ Modified Polypropylene (PP) composite

## Loading

System load rated to D400 (EN 1433: 2002)

## **Channel Widths**

■ 100, 150, 200 & 300 mm

## **Channel Lengths**

■ 1.0m & 500mm (selected depths)

#### **Grating Options**

- Inlay design
- Load options ranging from A15 D400 (EN 1433: 2002)
- Variety of grating designs and material's available
- Refer to product brochure

## **Channel Configuration**

- Constant-depth (same channel depth)
- Stepped-fall

- Polypropylene edge-frame
- Integral part of channel body structure













## **RECYFIX®PLUS**

A medium-duty system selected for use when durability and aesthetics are important project requirements.

**RECYFIX**®PLUS incorporates a neat and discreet steel edge-rail that accommodates all surface finishes and complements contemporary features in modern buildings and landscape design. This design feature also provides improved rigidity and protection at the channel edge.

**RECYFIX**®PLUS is fitted with a range of 'lay-on' gratings in a variety of materials, designs and loading options up to D400kN. Refer to product brochure for detailed information.

## **Key Features**

#### Material

■ Modified Polypropylene (PP) composite

## Loading

System load rated to D400 (EN 1433: 2002)

#### **Channel Widths**

■ 100, 150, 200 & 300 mm

## **Channel Lengths**

■ 1.0m & 500mm (selected depths)

## **Grating Options**

- Lay-on design
- Load options ranging from A15 D400 (EN 1433: 2002)
- Variety of grating designs and material's available
- Refer to product brochure

## **Channel Configuration**

- Constant-depth (same channel depth)
- Stepped-fall

## **Edge Detail**

Steel edge-rail fitted

#### Two options:

- Galvanised steel (DX51D+Z275-MA-C)
- Austenitic stainless steel (AISI Grade 304; EN CNS 1.4301)
- Neat, discreet, rigid and aesthetic













## **SLOTTED CHANNEL**

**SLOTTED** CHANNEL achieves high standards in quality and design, combining both aesthetic appeal and practical performance. The discreet linear surface detail complements modern building architecture and external landscape design, achieving a simple, safe and durable installation.

With high intake capacity through the surface slot opening, **SLOTTED** CHANNEL provides efficient and effective drainage of surface water in locations around the world that experience the highest rainfall intensities. Test data available on request. The **SLOTTED** CHANNEL system includes an access cover accessory for quick, simple cleaning and maintenance. Refer to product brochure for detailed information.

## **Key Features**

#### **Material**

- Modified Polypropylene (PP) composite
- Fibre-reinforced concrete

## Loading

■ Channel body load rated to D400 / E600 (EN 1433: 2002)

#### **Channel Widths**

■ 100, 150 & 200 mm

## **Channel Heights**

- Refer to Slotted Channel brochure
- Slotted channels can also be custom-made to suit most site requirements

#### **Channel Lengths**

■ 1.0m & 500mm (selected depths)

## **Slotted Cover Options**

- Load options ranging from A15 E600 (EN 1433: 2002)
- A-symmetric cover design
- Slot height options of 105mm (UK)
- Slot height options of 105mm, 160mm & 200mm (international)
- Galvanised steel (DX51D Z275)
- Austenitic stainless steel (AISI Grade 304, 316, other)
- Refer to product brochure

## **Channel Configuration**

- Constant-depth (same channel depth)
- Stepped-fall

#### **Edge Detail**

- Slot width options in 10mm (UK)
- Slot width options in 10, 12, 14 & 18 mm (international)





\*The A-symmetric slotted cover can be used along building facades, walls and landscape features at ground level.









Further information regarding intake capacity is available on request.













## **DACHFIX®RESIST**

Lightweight, corrosion resistant and cost-effective, **DACHFIX**®RESIST is designed to provide positive surface drainage in raised structures (roof terraces, balconies) where there may be depth-restrictions for installation (shallow pavement heights) and light pedestrian use.

DACHFIX®RESIST is available in two channel depths (45mm or 75mm overall height) with an overall width of 115mm.

The system includes a channel body in modified Polypropylene (PP) composite with a discreet integral edge-frame for enhanced aesthetics at the surface. Slots within the channel body structure allow sub-surface water to enter the system for fast and efficient drainage. **DACHFIX**®RESIST is available with a range of composite or steel gratings with a load rating equivalent to A15kN. Refer to product brochure for detailed information.

## **Key Features**

#### **Material**

■ Modified Polypropylene (PP) composite

#### Loading

■ Pedestrian EN 1433: 2002 not relevant for this application

#### **Channel Widths**

■ 115 mm (90mm internal width)

#### **Channel Heights**

45 & 75 mm (overall)

## **Channel Lengths**

**1.0**m

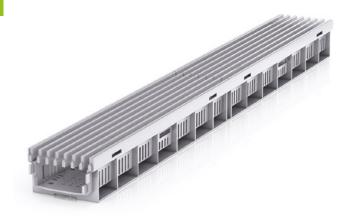
## **Grating Options**

- Inlay design
- Load equivalent to A15 (EN 1433: 2002)
- Variety of grating designs and material's available
- Refer to product brochure

## **Channel Configuration**

Constant-depth (same channel depth)

- Polypropylene edge-frame
- Integral part of channel body structure













## **DACHFIX®STEEL**

Lightweight and versatile, **DACHFIX**®STEEL has been designed to meet European regulations regarding installation of linear drainage systems across door thresholds to achieve barrier-free entry for a variety of project applications, including raised structures (terraces, balconies etc) and facades.

Available in five channel widths; each with four depth options (45, 75, 100 and 150 mm), **DACHFIX**®STEEL provides total design flexibility to suit most project and hydraulic requirements.

With innovative design features and components (removable pipe sections, integral weep holes/slots, height adjusters, quick-fit locking mechanism, unique outlet box design), **DACHFIX**®STEEL is quick and easy to install and accommodates more complex construction requirements for raised structures (insulation board, structural reveals, direct pipe connection, sub-surface drainage etc). Refer to product brochure for detailed information.

## **Key Features**

#### **Material**

- Galvanised steel
- Stainless steel

#### Loading

■ Pedestrian EN 1433: 2002 not relevant for this application

#### **Channel Widths**

■ 115, 135, 155, 205 & 255 mm

#### **Channel Heights**

45, 75, 100 & 150 mm (overall)

## **Channel Lengths**

**1.0**m

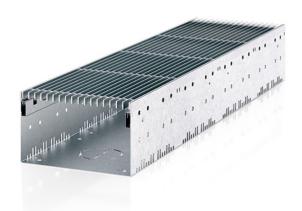
#### **Grating Options**

- Inlay design
- Load equivalent to A15 (EN 1433: 2002)
- Variety of grating designs and material's available
- Refer to product brochure

### **Channel Configuration**

■ Constant-depth (same channel depth)

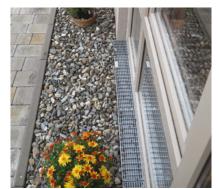
- Steel edge-frame
- Integral part of channel body structure
- Discreet and aesthetic













## **SHALLOW** CHANNELS

The core range of **RECYFIX®** and **FASERFIX®** grated channel systems (A15 - E600) are available in shallow channel options, with a variety of shallow depth dimensions no greater than 115mm deep (see below).

Shallow channel options are generally 100mm wide (other channel widths are available in reduced height dimensions). Shallow channels can be used in most applications where there is a depth restriction. When used in raised concrete structures, channels should be installed with sealed joints and above a Damp Proof Membrane (DPM). Refer to product brochure for detailed information.

## **Key Features**

#### Material

- Modified Polypropylene (PP) composite
- Fibre-reinforced concrete

#### Loading

- Depends on system selected
- A15 E600 (EN 1433: 2002)

#### **Channel Widths**

- 100 mm
- Shallow channels also available in wider sizes

## **Channel Heights**

- RECYFIX®STANDARD: 60, 80 & 100 mm
- **RECYFIX**®PRO: 75, 95 & 115 mm
- **RECYFIX**®PLUS: 60, 80 & 100 mm
- RECYFIX®NC: 75 mm
- **FASERFIX**®KS: 80, 100 & 110 mm
- \*Overall height dimension provided

### **Channel Lengths**

■ 1.0m

#### **Grating Options**

- Lay-on or inlay design
- Load options ranging from A15 E600 (EN 1433: 2002)
- Variety of grating designs and material's available
- Refer to product brochure

### **Channel Configuration**

■ Constant-depth (same channel depth)

- Integral polypropylene edge (visible on the surface)
- Galvanised steel S275J263+Z
- Stainless steel CNS 1.4301
- Neat, discreet, rigid and aesthetic













## **CUSTOMISED** DRAINAGE SOLUTIONS

HAURATON provides **CUSTOMISED** DRAINAGE SOLUTIONS to meet very specific requirements for unique and innovative applications. A bespoke approach offers total flexibility regarding channel width, depth, configuration, edge-detail, materials, inlet/grating design, type/location of outlets and other special system characteristics.

**CUSTOMISED** DRAINAGE SOLUTIONS provide the perfect design when project needs require high-quality aesthetics with superior and precise performance. Designs include specialist grated and slotted channel systems. Refer to product brochure for detailed information.

## **Key Features**

#### **Material**

- Corten steel
- Galvanised steel
- Stainless steel (various grades)
- Other specialist materials to suit project needs

#### Loading

- Generally A15 D400 (EN 1433: 2002)
- System designed to meet load requirements

#### **Channel Widths**

■ Sized to meet hydraulic requirements

#### **Channel Lengths**

- Variable
- Modular sections fabricated to meet specific configurations
- Polygon or radial designs available

#### **Grating/Cover Options**

- Designed to meet performance and load requirements (EN 1433:2002)
- Variety of designs, materials, colours and finishes available
- Refer to product brochure

## **Channel Configuration**

- Constant-depth (same channel depth)
- Built-in fall

- Designed to meet project requirements
- Neat, discreet, rigid and aesthetic









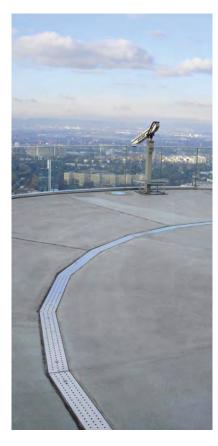




# UNIQUE DESIGNS

Customised channel designs for special applications (entrance ways, public spaces, roof terraces, balconies, facades, others).













## **HAURATON** CHANNELS

Appropriate channels from HAURATON's standard range of **RECYFIX®** and **FASERFIX®** linear drainage systems can be used for façade drainage at ground level if there are no depth restrictions on site.

Refer to the 'Public Realm & Shared Space' Product Selector for details of suitable systems.





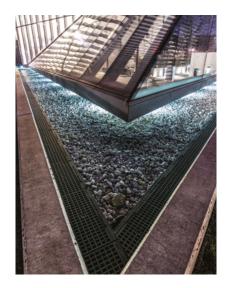










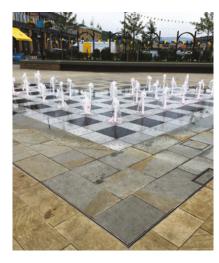




















## **HAURATON** GRATINGS

HAURATON offers a variety of grating designs supplied as standard with the range of linear drainage systems, including mesh, slotted, longitudinal, perforated and HeelSafe. HAURATON also provides unique, innovative 'award-winning' designs such as GUGI-MESH and FIBRETEC gratings.

Grating materials include spheroidal ductile iron, galvanised steel, stainless steel and specialist composites such as 'glass-reinforced polyamide' (PA-GF). DECORATIVE and COLOURED gratings provide an extra dimension to the project design.

## Durability

HAURATON gratings are designed for long-term durability and low maintenance.

Channel systems are often installed in corrosive environments.

FIBRETEC® and GUGI®MESH gratings are supplied in glass-reinforced polyamide (PA-GF), a high-performance composite that is highly corrosion resistant. Once in place, gratings will not corrode (no oxidation) and will maintain their aesthetic appearance for the projects life.

For extra durability and design flexibility, selected ductile iron gratings can be supplied with a galvanised coating.

Powder coatings can also be arranged on request to provide additional colour options and enhanced resistance (min. order quantity/extended lead time may apply).







## **KTL** COATING

HAURATON provides selected ductile iron gratings with a 'KTL' coating.

The coating is applied to the grating using a 'cathodic dip' process.

## **Benefits**

- High durability and weather resistance
- Protects against corrosion and oxidation
- High resistance to chemicals, acids, fuels and salts
- Complies with environmental standards
- No risk to users when applied (non-hazardous)
- Paintable

\*\*If ductile iron gratings are preferred, specifiers are advised to select HAURATON gratings with a 'KTL' coating as standard, to maintain the aesthetic appeal of the installation.







York Station - 2017

## York Railway Station, United Kingdom

**RECYFIX**®STANDARD system with Ductile Iron Slotted Gratings with 'KTL' coating applied.

The installation looks as good today as it did ten years ago.

## **Rusty Gratings!**

Ductile iron gratings may be subject to oxidation (a natural process) when channels are installed in locations that may not be trafficked (or trafficked infrequently).

Water-based coatings provide only superficial and cosmetic protection, so oxidation may occur at some point in the future.





# METROPOLIS GRATINGS

Inspired by Art Deco design for use on modern projects.

Compatible with **RECYFIX®**PRO and **FASERFIX®**KS systems









# FIBRETEC GRATINGS

Bring colour, bring life to projects.

HAURATON's range of FIBRETEC gratings in Glass-Reinforced Polyamide composite combines superior performance with enhanced aesthetics, bringing longevity and life to projects.

## **Benefits**

FIBRETEC gratings have the following benefits:

- UV stable
- HeelSafe (9mm opening)
- Corrosion resistant; no oxidation
- Anti-static and none conducting
- High resistance to chemicals, fuels, salts etc

 $\begin{tabular}{ll} *Compatible with $\tt RECYFIX@PRO$ and $\tt FASERFIX@KS$ systems \end{tabular}$ 

Readily available in standard colours:

- Fern
- Sand
- Stone
- Black

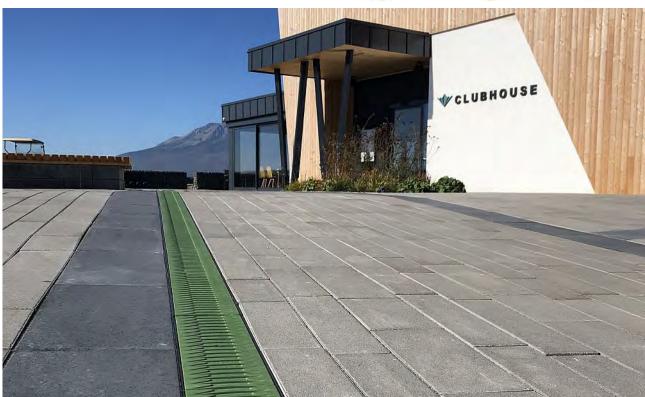














## **DRAINFIX®CLEAN**

**DRAINFIX**®CLEAN linear drainage 'water treatment' system is a cost-effective, ecological, efficient and immediate solution for the draining, collection and treatment at source of storm water run-off.

The system contains CARBOTEC®60, a carbonate-rich filter substrate through which the cleansing of stormwater occurs, for safe and hygienic use as sanitary water (toilet flushing) and irrigation of soft-landscaping. **DRAINFIX®CLEAN** is very effective when used in densely populated areas (streets, parking areas, service yards, landscape projects).

## **Key Features**

#### **Material**

- RECYFIX® channels in modified Polypropylene (PP)
- FASERFIX® channels in fibre-reinforced concrete
- CARBOTEC®60 filter substrate (high carbonate content)

#### Loading

- Polypropylene (PP) channels load rated to D400
- Fibre-reinforced concrete channels load rated to F900 (EN 1433: 2002)

#### **Channel Widths**

■ 300, 400 & 500 mm

## **Channel Lengths**

1.0m

## **Grating Options**

- Inlay design
- Slotted grating
- D400, E600 & F900 (EN 1433: 2002)
- Spheroidal ductile iron GJS 500-7 'EN1563'
- KTL 'cathodic dip' coating (optional)

#### **Channel Configuration**

Constant-depth (same channel depth)

#### **Edge Detail**

Three options:

- Polypropylene (PP)
- Galvanised steel S275J263+Z
- Spheroidal ductile iron GJS 500-7 'EN1563'













## **AQUAFIX®** SEPARATORS

HAURATON's range of advanced and efficient AQUAFIX® Separators reduce pollution for environmental protection by providing mechanical separation of contaminants (hydrocarbon compounds, light liquids, metals, fine particles, grease, fatty acids, other harmful elements) from surface water or effluents, achieving water cleansing efficiency up to 99.9%.

AQUAFIX® units help return clean water to the natural eco-system for sustainable preservation of vital resources. Contaminants are captured for onward disposal.

## **Key Features**

#### **Material**

Separators are available in:

- Steel
- Concrete
- Polyethylene (PE)
- Polypropylene (PP)

#### **Capacities**

- Systems customised to suit project needs
- AQUAFIX®SKG Coalescence Separators in steel (multiple bypasses fitted) can accommodate flow rates over 4000 lit / sec

## System Design

- Corrosion resistant
- Durable, high quality materials
- Modular design for flexibility
- Advanced and innovative systems
- Modern coalescence separation technology
- Simple, practical design for ease of maintenance

## **Treatment Efficiency**

- Water cleansing efficiency up to 99.9%.
- Ultra-efficient separation and treatment process

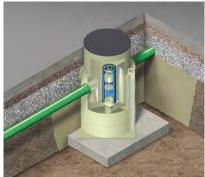
#### **Standards**

Systems comply with all recognised standards and regulations

## **Applications**

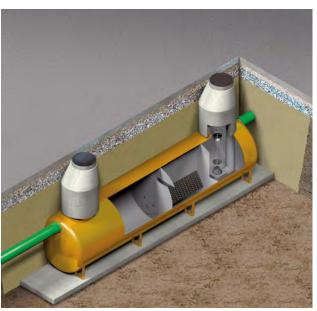
- Airports
- Industrial Plants
- Ports
- Vehicle Washing Facilities
- Highways
- Warehouse & Logistics Centres
- Factories
- Service Stations & Fuel Stations

- Parking Areas
- Service Yards & Industrial Areas













# **Design Software**

## **Hydraulic Design Software**

HAURATON provides a comprehensive design service, which is free of charge.

Our channel drainage configurations are designed and sized using 'hydraulic design software' specifically developed for HAURATON systems.

The formula used within the software is based on that determined by Gauckler-Manning-Strickler. Accuracy has been verified by physical testing of HAURATON systems within a hydraulic discharge test flume, replicating and evaluating hundreds of flow scenarios.

HAURATON 'hydraulic design software' has been used successfully in-house by our technical personnel and partners for over 30 years with total reliability.

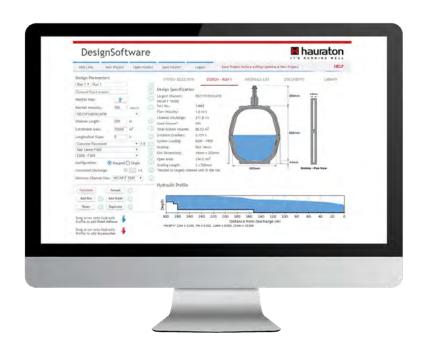
## **HAURATON DesignSoftware**

User-friendly and free-of-charge, our web-based application 'DesignSoftware' provides construction industry professionals with quick, simple hydraulic analysis, channel sizing, project design and product specification for the company's core range of surface drainage systems (for landscape, commercial and civils projects) whilst working on their own desk-top and lap-top computers.

HAURATON 'DesignSoftware' provides engineers with the flexibility to create their own drainage designs, with just three clicks to a hydraulic calculation.

Follow the link below to register and use the software:

https://hydraulicdesign.hauraton.com/register/







# **Total Support**

## **Projects Team**

HAURATON provides close support to ensure drainage design, specification and installation is quick, efficient and cost-effective.

A team of regional, specification and project managers are available to assist industry professionals at every stage of the construction process. Refer to HAURATON for contact details (www.hauraton.com).

A multinational company, HAURATON has production facilities, subsidiary offices, technical engineers and partners located in many countries and regions of the world.

HAURATON has the knowledge, experience and resources to manage and support all projects successfully, regardless of location.

## **Design Service**

HAURATON offers a comprehensive design service for all product ranges. This is available free of charge and without obligation.

Our approach is to provide innovative 'value-engineered' designs to achieve the most cost-effective drainage solution for the benefit of all parties.

Design proposals can be provided within 24 - 48 hours, depending on the size of the project. Information offered includes:

- Hydraulic calculations for each channel run
- System configuration drawings
- Parts list schedules
- Product dimension drawings
- System installation drawings
- Product and material technical datasheets
- Other technical and support information

Feel free to contact us should you require assistance.





# **Quality Assurance**

## **High Standards**

HAURATON products and procedures bring quality assurance.

The company operates in accordance with EN ISO 9001: 2015. Production within modern, mechanised facilities in Europe is carefully monitored and controlled to achieve consistent product quality.

HAURATON drainage channels have been independently tested for load capacity and watertightness in accordance with the European Standard EN 1433: 2002. Systems are CE marked for quality assurance.

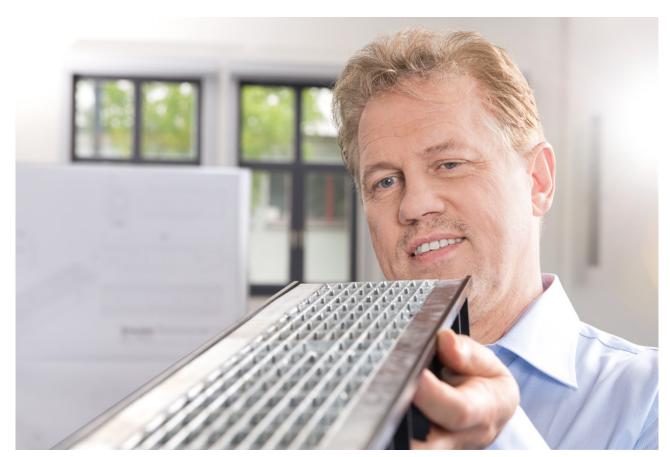
## **Proven Performance**

Supplied for over sixty years and twenty-five years respectively, **FASERFIX**® and **RECYFIX**® systems have proven performance, having been used successfully on major projects around the world. Individual project case studies are available from HAURATON.

HAURATON has a reputation for products of the highest quality, durability and reliability.









# **Airport Project List**

HAURATON drainage systems have been used on the following airport projects and more...

## **Europe**

Biggin Hill Airport, Kent, UK Blackbushe Airport, UK Gatwick Airport, UK

British Airways Maintenance Facility, Heathrow Airport, UK

BAE Systems, Crewe, UK

RAF Leeming, North Yorkshire, UK

Liverpool Airport, UK

Legacy 500 Private Hangar, Liverpool Airport, UK

Luton Airport, UK Manchester Airport, UK

Cargo Area, Manston Airport, UK

Newquay Airport, UK

RAF Spadeadam, Carlisle, UK Birmingham Airport, UK Edinburgh Airport, Scotland Prestwick Airport, Scotland

Cork Airport, Ireland

Brussels Airport, Belgium

Sofia Airport, Bulgaria Varna Airport, Bulgaria Burgas Airport, Bulgaria

Graf Ignatievo Military Airport, Bulgaria

NATO Military Airport, Bezmer, Yambol, Bulgaria

Zadar Airport Apron & Taxiway, Croatia Zagreb Airport (Military Base), Croatia Dubrovnik Airport Car Park, Croatia

Vaclav Havel Airport, Prague, Czech Republic

Helsinki-Vantaa Airport, Finland

Bordeaux Airport, France

Airport Bale-Mulshouse, France-Switzerland Clermont-Ferrand Auverge Airport, Aulnat, France

EUROCOPTER W8 Marignane, France Taxi Lane, Airport Lyon Bron, France Airport Lyon Saint Exupéry, France Nice Airport, Cote D'Azur, France Military Airbase Saint Dizier, France Airport Pointe à Pitre, France

Marseille-Provence Airport, France Military Airbase 125, Istres, France

Military Airbase 118, Mt de Marsan, France

Military Airbase, Evreux, France Nantes-Atlantique Airport, France

## **Europe**

Strasbourg Airport, France Paris Airport Le Bourget, France

Helicopter Airfield, Monaco

Martinique Aimé Césaire International Airport (Fort De

France Airport), Martinique

Ariane 6 Launch Facility, European Spaceport, Kourou,

French Guyana

Frankfurt Am Main Airport, Germany

Hannover-Langenhagen Airport, Germany

Nuremburg Airport, Germany Stuttgart Airport, Germany

Airport Ferihegy, Budapest, Hungary

Airport Pér - Gyar, Hungary NATO Airbase, Pápa, Hungary

Ancona-Falconara Airport, Italy Aviano (Ud) Airport, Italy

Military Airport, Galatina (Le), Italy Lamezia Terme Airport, Calabria, Italy

International Airport Capodichino, Naples, Italy International Airport Abruzzo, Pescara, Italy

Venice Airport, Italy

Helicopter Base, San Donato Milanese Hospital, Milan, Italy

Malpensa Airport, Milan, Italy

Il Caravaggio Airport, Orio al Serio (BG), Italy

Galileo - Galilei Airport, Pisa, Italy Bologna Airport, Bologna, Italy Fiumicino Airport, Rome, Italy Military Airport, Trapani, Italy

Malta Airport, La Valletta, Malta

NATO Airbase, Siauliai, Lithuania

Vilnius Airport, Lithuania

Warsaw Airport, Poland

Port Lotniczy Dajtki, Olsztyn, Poland

Port Lotniczy im. Lech Wałesy, Gdansk - Lech Walesa

Airport, Poland

Port Lotniczy im. Fryderyka Chopina, Warszawa, Poland

Port Lotniczy, Swidwin, Poland Port Lotniczy, Balice, Poland

Port Lotniczy, Katowice-Pyrzowice, Poland Port Lotniczy, Wrocław Strachowice, Poland

Port Lotniczy Lublinek, Poland



# **Airport Project List**

## **Europe**

Port Lotniczy Ławica, Poznan, Poland Port Lotniczy, Radom, Poland

Port Lotniczy, Darłówek, Skład MPS, Poland

Port Lotniczy Politechnika Jasionka, Rzeszów, Poland

Port Lotniczy, Bydgoszcz, Poland

Port Lotniczy, Lublin Swidnik, Poland

Port Lotniczy, Kielce, Poland

Lotnisko Wojskowe, Krzesiny, Poland

Lotnisko Wojskowe, Łask, Poland

Lotnisko Wojskowe, Malbork, Poland

Lotnisko Wojskowe, Powidz, Poland

Lotnisko Wojskowe, Teodory, Poland

Ladowisko Helikopterów, Płock, Poland

Szczecin Landing Field, Poland

Helicopter Airfield, Gryfice, Poland

Helicopter Airfield, Poznan, Poland

Helicopter Airfield, Szczecin, Poland

Helicopter Airfield, Pila, Poland

Helicopter Airfield, Chelm, Poland

Helicopter Airfield, Nowy Sacz, Poland

Helicopter Airfield, Sosnowiec, Poland

Military Airport, Glinnik, Poland

Military Airport, Swidwin, Poland

George Enescu International Airport, Bacau, Romania.

Chisinau Airport, Republic of Moldova

VIP Hangar, Airport M.R. Stefanika, Bratislava, Slovakia

Tank Station, Airport Kosice, Slovakia

Technical Service Facility, Airport Ljubljana, Slovenia

Bovec Sport Airport, Slovenia

Izola Hospital Heliport, Izola, Slovenia

Dravograd Hospital Heliport, Dravograd, Slovenia

UKC Ljubljana Hospital Heliport, Slovenia

## Russia

Airport 'Ostafevo', Moscow, Russia

Airport 'Yakutsk', Sakha, Siberia, Russia

#### Asia

New Istanbul Airport, Turkey Hangar Project, RTAF Airbase, Bangkok, Thailand Landside Areas, Pune Airport, India

## Middle East

Abu Dhabi Airbase, UAE

Das Island Airbase, UAE

Sweihan Airbase, UAE

Advanced Military Maintenance Repair & Overhaul Centre

(AMMROC), Al Ain International Airport

Design & Construction of Project BRAVO (Command of

Military Works), UAE

Midfield Terminal Complex Arrival Terminal LO.0

(Landside), Abu Dhabi Airport, UAE

Midfield Terminal Complex Departure Terminal L2.0

(Landside), Abu Dhabi Airport, UAE

Aircraft Apron (Phase 1), Etihad Airways, Abu Dhabi

Airport, UAE

MC1, Muscat International Airport, Oman

MC3, Muscat International Airport, Oman

MCT Passenger Terminal Building, Muscat International

Airport (MC3), Oman

VIP Access Road, Muscat International Airport, Oman

King Abdul Aziz International Airport, Jeddah, Saudi Arabia

### South America

Cancun Airport, Mexico

Aeropuerto Internacional Ciudad de Mexico (AICM), Mexico

City

New Mexico City Airport, Mexico

Salvador-Deputado Luís Eduardo Magalhães International

Airport, Bahia, Brazil



AQUA



## **HAURATON LIMITED**

Unit 4 Frenchs Avenue **Dunstable Bedfordshire** LU6 1BH United Kingdom

## www.hauraton.co.uk

E: ts-uk@hauraton.co.uk T: +44 (0) 1582 501380 F: +44 (0) 1582 501399

