■ hauraton



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Drains effectively - modularly built.

1 Requirements

Drainage channels for larger areas:

- to withstand daily traffic by cars and trucks
- various grating designs available
- simple and safe installation in all surfaces
- up to load Class F900

2 Application areas

- Parking areas
- Supermarkets
- Shopping centres
- Pedestrian areas
- Airports
- Industrial estates
- Cargo handling and loading yards
- Power stations
- Ports

3 Solutions

- unique slot design made from high-quality ductile GGG-50
- complete range of models for all areas of application
- 2 different tops for different drainage levels
- available in lengths of 1 metre for fast and easy installation
- 3 slot models: 14mm slot, 28mm slot, 13/28 mesh
- 6 different nominal widths
- each unit with integral tongue and grove joint
- easy to install
- in order to avoid dirt entering the channels, the inlet slots come with protective tape which is easy to pull off on completion
- hydraulic calculation program and individual design support available

A selection of Hydraulic Performance tables for the most popular sizes of FASERFIX and RECYFIX channels including the RECYFIX MONOTEC and RECYFIX HICAP ranges are available on request in an 8 page hard copy or PDF publication.

Hauraton channel drainage configurations are designed and sized using in-house **Hydraulic design software**. The accuracy of the software has been verified by physical testing of Hauraton systems within a hydraulic discharge test flume, replicating and evaluating hundreds of flow scenarios.

Hydraulic design software is also available free of charge to industry professionals. Intuitive and user friendly, **Hauraton Design Software** allows engineers to create drainage schemes for the company's range of civil engineering systems on tablets, desktop computers or through the internet (web-based application).

For smaller projects where a quick indication of the appropriate channel size and system is required for a given catchment area, Hauraton can provide their **Hydraulic Design App**.

For further details contact the Hauraton Technical Support Team





Drains effectively - modularly built.

Drainage and retention system for larger areas.

The new solution: RECYFIX HICAP

RECYFIX HICAP has been developed for special drainage functions. The channel system is used for draining large areas and simultaneously serves as a retention space. The RECYFIX HICAP drainage system holds large volumes of surface water, guides it over large distances, directs it to the main outlets. The system offers very high hydraulic capacity for increasing storm events. This creates a large backwater reserve. At the same time it offers the option to restrict the water output to the main water channel and to slowly release the collected water into the sewage network.



Advantages

The HICAP slot drainage system allows flexibility in design and installation, potentially reducing the number of channel runs normally required to drain a given area. This reduction means less excavation, materials and vastly reduced installation time. As there are fewer runs required the surface's strength is not compromised whilst maintenance and cleaning are also reduced. What's more, all but the largest sizes weigh less than 25kg so reducing the need for mechanical handling. To further reduce hassle on-site end caps and pipe connectors are supplied with other connection points moulded into the sides and/ or bottom of each channel.

The different sizes offered are designed to easily link up with each other in a step-fall design, so as the volume of water increases downstream the chance of overflow is virtually eliminated.

Benefits

for planners/engineers

- drainage and retention in one assembly
- large selection of different sizes
- suitable for all load classes
- fewer trash boxes and outlets
- allows projects to be designed with a uniform look

for contractors

- quick and easy installation
- no separate covers
- less sewer connection work

for construction companies

- safety through large hydraulic capacity
- easy to service
- continuous uniform look





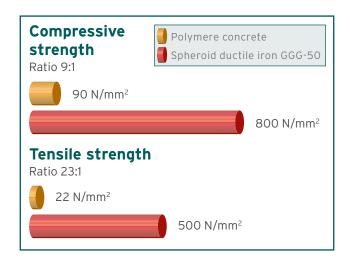




Gratings made of sturdy spheroid ductile iron

The integrated gratings are made of high-quality spheroid ductile iron GGG-50. Different grating designs are available for different application areas. In roadways and pedestrian areas cross- or lengthwise webs are used. In industrial areas the "open slot" option with a particularly large inlet cross-section can be used. The traffic surface of ductile iron GGG-50 is extremely sturdy and virtually unbreakable. It is designed for particularly high strain caused e.g. by heavy goods vehicles or airplanes.

The spheroid ductile iron GGG-50 material features 23 times more tensile strength and 9 times more compressive strength than polymer concrete. In regard to load and resistance to wear, these physical characteristics clearly speak in favour of the REFYFIX HICAP channels.



PP channel bodies

The bodies of the RECYFIX HICAP channels are made of eco-friendly PP, 100% recycled composite. They are very lightweight, easy to install, without installation aids. They are easily connected with tongue and groove joints. Special connectors ensure the correct transition of channels of different sizes.

At a Glance:

- drainage and retention in one assembly
- uniform appearance
- easy installation
- A continuous loading capacities up to F 900

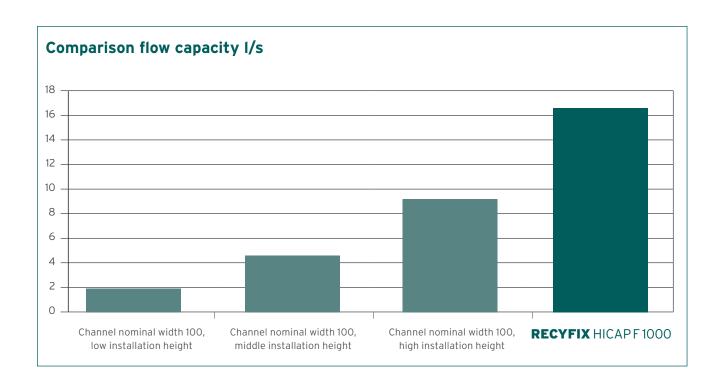
Drains effectively - modularly built.

Drainage and retention system for larger areas.

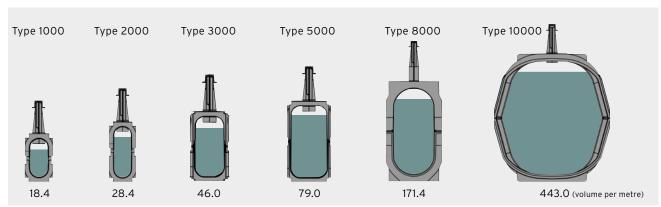
Draining large areas with only one channel run

RECYFIX HICAP is so effective because large areas can be implemented with one single channel run. Starting with a channel type 1000 mm, it offers the option to expand up to channel type 10000. With this; the installation height increases as well and a channel is created underground which cannot be seen above ground. What's seen is a drain line with a consistently narrow cover.

A trash box which can be installed at any location of the channel run is used to connect to the sewer system or as a connection to other branches of the drainage system. As a two-part component, the trash box can also be used as a pump pit.



RECYFIX®HICAP®: Channels with bachwater volume





RECYFIX HICAP provides reliable surface drainage for over 10 years

Parking area of Doncaster's Community Sports Complex, UK

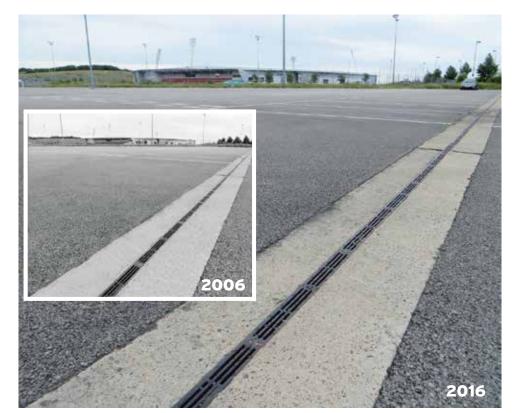
It has been 10 years since the introduction of the RECYFIX HICAP drainage system. The system was first installed in 2006 in the parking area at Doncaster's Lakeside Community Sports Complex. The Complex was planned and built according to the highest architectural standards, integrating sports and community facilities in a spectacular parkland setting.

Over the years, well over 100,000 RECYFIX HICAP channels have been installed in numerous UK projects. The RECYFIX HICAP system was the result of an extensive research and development programme run by the HAURATON design engineers during 2005/6.

The design work resulted in an innovative surface water drainage system that had a unique ductile iron top tested up to class F 900 loading capacity. Using ductile iron prevented distortion of the slots during installation and their entire life span. RECYFIX HICAP was developed to facilitate rainwater run-off from large hard landscaped, tarmac and concrete surfaces.

Tim Connolly, Managing Director, is delighted with the success of the product in the UK. Tim reports, "After 10 years of use, the RECYFIX HICAP channel runs at Doncaster have provided trouble-free drainage with no failures reported in any of the components installed."







After over 10 years of use, the RECYFIX HICAP channel runs at Doncaster have provided trouble-free drainage with no failures reported in any of the components installed.

HAURATON provided the Doncaster's Community Sports Complex with RECYFIX HICAP.

RECYFIX HICAP F REFERENCES



DPD Sheffield



Symphony kitchens distribution centre



Wirtgen newark



RECYFIX HICAP references:



Office building, Warsaw Spire, Poland

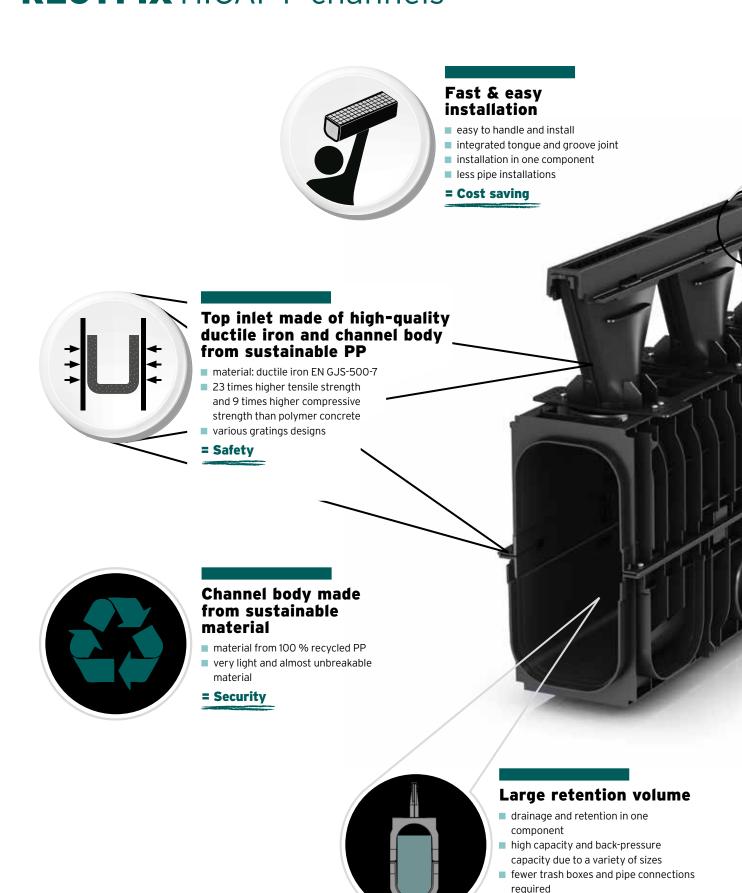


Distribution warehouse, Trafford Point, UK



Airbase, Bulgaria

Features and benefits of **RECYFIX** HICAPF channels



= Flexibility/Security





Link&Lock facilitates the installation

- innovative linking system for ductile iron tops
- easy and quick alignment of each channel
- = Cost savings



Individual solutions

- possible radial installation
- cable and pipe installations can be laid through funnel
- ductile iron top on the surface can be interrupted while the channels continue underground
- = Flexibility



Various connecting possibilities

- end cap with canal connection option
- simple to prepare corner and T-connections
- end cap adapter for connecting the next size channel
- various options for pipe connections exist on the channel
- = Flexibility



High stability

- designed for extreme conditions, especially for applications in heavy road traffic up to class F 900
- = Safety



Wide range

- various gratings, also available with KTL coating for extra corrosion protection
- uniform design also in different nominal widths
- = Flexibility

High capacity drainage system for the highest load category.

RECYFIX HICAP channels meet the requirements of DIN EN 1433 and are suitable for the following load categories:



Category A 15, Load class 15 kN

Traffic areas without car access



Category B 125, Load class 125 kN

Traffic areas on private premises



Category C 250, Load class 250 kN

Public areas with light traffic and moderate frequency



Category D 400, Load class 400 kN

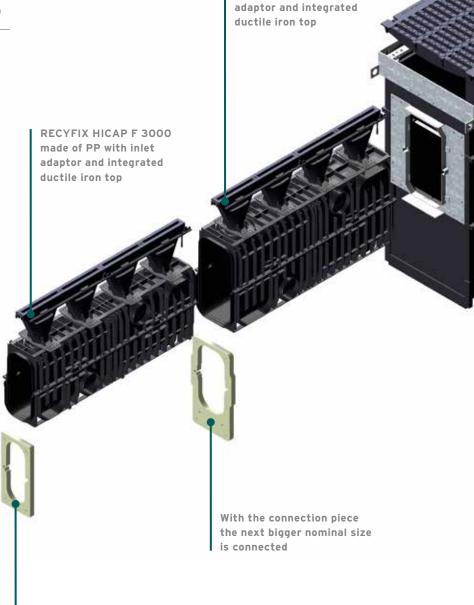
Roadways and streets (not for installation in the carriageway in motorways)

RECYFIX HICAP F 1000 made of PP with inlet adaptor and integrated ductile iron top



Category F 900, Load class 900 kN

Areas subject to ultra heavy traffic



With the connection piece the next bigger nominal size

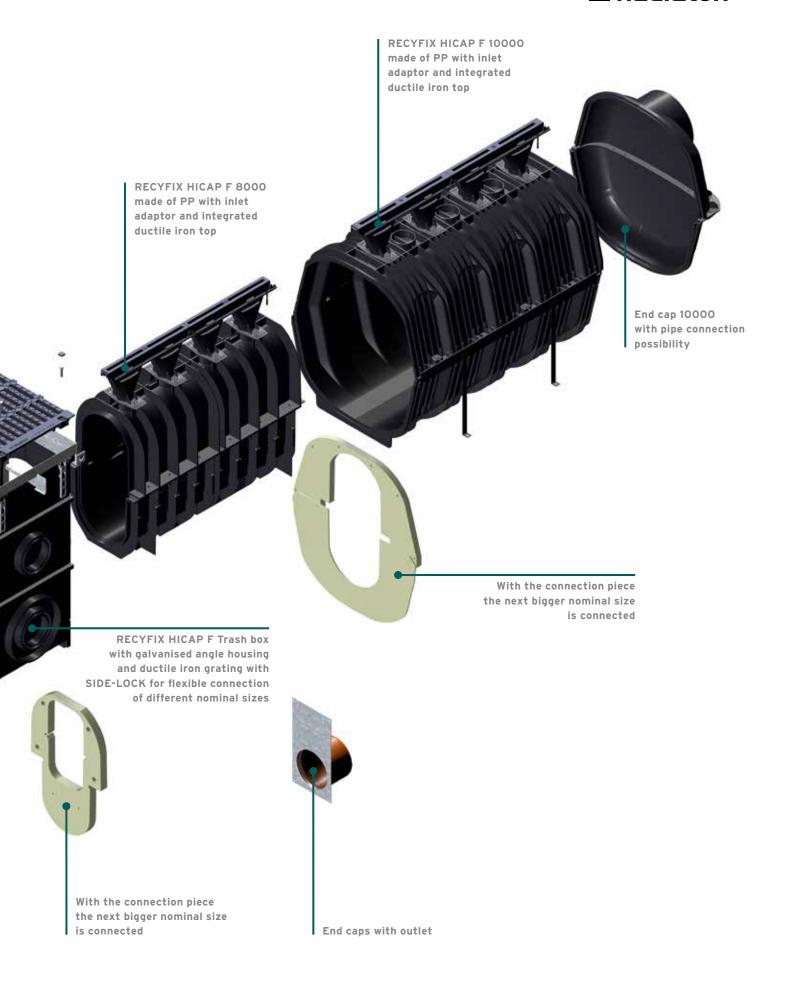
is connected

RECYFIX HICAP F 5000

made of PP with inlet

End cap without outlet





Effectively drained - modularly built.

Drainage and retention system for larger areas.

Report from the field: RECYFIX HICAPF channels for Heathrow Airport, London

With 67 million travellers annually, Heathrow Airport in London is Europe's busiest airport. Worldwide it takes third place behind Atlanta and Chicago. This important hub in international air traffic is operated by BAA, British Airports Authority, the largest airport operator worldwide. 75 % of the British Airways fleet is based at Heathrow Airport.



At the southern section of the airport the British Airways service park was expanded. The construction site abutted right on the runway and taxiway. The demands on the new service site were immense: here airplanes of all types and sizes pass - including the Airbus A380, which was

also a main reason for the reconstruction. The aircraft tugs alone weigh 80 tons and, just as the airplanes, drive and turn on the traffic areas. The demands on the drainage systems are accordingly high.

Project progress

In 1999 BAA was supplied with FASERFIX SUPER channels for the Gatwick airport and installed in the British Airways hangars and Concorde maintenance hangars. One year later, FASERFIX SUPER KS 100 channels were delivered to London City Airport. The assigned engineering office was very satisfied with the quality and service. In 2003 BAA broached the topic of installation and handling of drainage systems. The main topic of the discussions was the extreme weight of the products and the associated high employment of machines during installation.

On multiple occasions, HAURATON contacted various departments of BAA and presented the advantages of RECYFIX products (lightweight, easy handling, meets British "Health and Safety Regulations" = One-man-lift = max. 25 kg). Drainage channels from this line were presented in various meetings and BAA decided across the board to work with HAURATON in the area of RECYFIX.









RECYFIX HICAPF - eco-friendly and 'easy to handle'

Another key criterion for BAA was recycling. Airport planning and operation are subject to stringent environ-mental requirements. Products made of recycled plastic are therefore especially suited.

Suppliers routinely need to present BAA with product innovations which offer cost savings in installation and maintenance. In 2006 the time came for HAURATON to present the new line RECYFIX HICAP. The feedback was very positive, with BAA immediately recognising the resulting advantage in installation and maintenance.

Installed items

- 380 m RECYFIX HICAP F 8000
- 100 m RECYFIX HICAP F 5000
- 100 m RECYFIX HICAP F 3000



Lightweight unit, installed by one single worker.

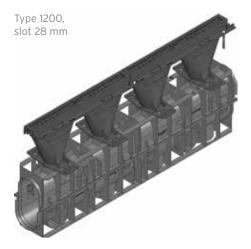
Other examples of RECYFIX HICAP F

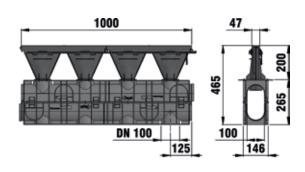






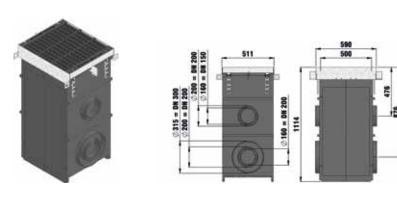
RECYFIX HICAPF 1000 up to load class F 900





	Length mm	Width mm	Height mm	Drainage cross-sect. cm²	Intake cross-sect. cm²/m	Funnel H mm	Weight kg	Item No.
Type 1200, mesh 13/28 mm	1000	146	465	184	172	200	10,75	13025
Type 1200, slot 28 mm	1000	146	465	184	248	200	9,91	13035
Type 1200, slot 14 mm	1000	146	465	184	124	200	10,75	13023

RECYFIX HICAPF Trash boxes



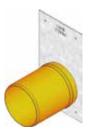
Trash box complete with ductile iron grating SW 3x140/20 mm, class E 600

	Length mm	Width mm	Height mm	Weight kg	Item No.
Trash box complete with ductile iron grating SW 3x140/20 mm, class E 600	511	590	1114	101,00	16500
Trash box complete with solid ductile iron cover, class E 600	511	590	1114	103,50	16505
Trash box connector incl. assembling, RECYIFIX HICAP 1000	-	-	-	2,73	881
Trash box connector incl. assembling, RECYFIX HICAP 2000	-	-	-	4,10	882
Trash box connector incl. assembling, RECYFIX HICAP 3000	-	-	-	3,90	884
Trash box connector incl. assembling, RECYFIX HICAP 5000	-	-	-	3,80	886
Trash box connector incl. assembling, RECYFIX HICAP 10000	-	-	-	4,70	888

RECYFIX HICAPF 1000, Accessories



End cap closed, galvanised, type 1000

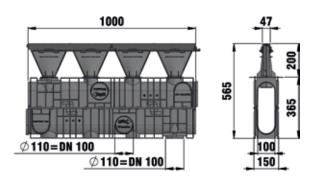


End cap with PVC-U pipe outlet DN/OD 110, galvanised, type 1000

	Length mm	Width mm	Height mm	Weight kg	Item No.
End cap closed, galvanised, type 1000	-	140	250	1,20	13013
End cap with PVC-U pipe outlet DN/OD 110, galvanised, type 1000	_	140	250	1,20	13018

RECYFIX HICAPF 2000 up to load class F 900

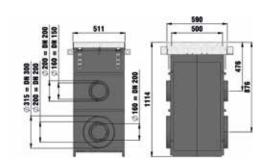




	Length mm	Width mm	Height mm	Drainage cross-sect. cm	Intake cross-sect. cm/m	Funnel H mm	Weight kg	Item No.
Type 2200, mesh 13/28 mm	1000	150	565	284	172	200	13,10	13020
Type 2200, slot 28 mm	1000	150	565	284	248	200	11,14	13030
Type 2200, slot 14 mm	1000	150	565	284	124	200	11,51	13028

RECYFIX HICAPF Trash boxes





Trash box complete with ductile iron grating SW 3x140/20 mm, class E 600

	Length mm	Width mm	Height mm	Weight kg	Item No.
Trash box complete with ductile iron grating SW 3x140/20 mm, class E 600	511	590	1114	101,00	16500
Trash box complete with solid ductile iron cover, class E 600	511	590	1114	103,50	16505
Trash box connector incl. assembling, RECYIFIX HICAP 1000	-	-	-	2,73	881
Trash box connector incl. assembling, RECYFIX HICAP 2000	-	-	-	4,10	882
Trash box connector incl. assembling, RECYFIX HICAP 3000	-	-	-	3,90	884
Trash box connector incl. assembling, RECYFIX HICAP 5000	-	-	-	3,80	886
Trash box connector incl. assembling, RECYFIX HICAP 10000	-	-	-	4,70	888

RECYFIX HICAPF 2000, **Accessories**







End cap with PVC-U pipe outlet DN/OD 110, galvanised, type 2000

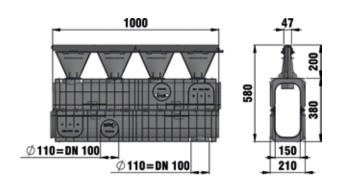


Step-fall ramp, stainless steel, from RECYFIX HICAP 2000 to RECYFIX HICAP 1000

	Length mm	Width mm	Height mm	Weight kg	Item No.
End cap closed, galvanised, type 2000	-	140	350	1,80	13012
End cap with PVC-U pipe outlet DN/OD 110, galvanised, type 2000	-	140	350	2,00	13015
Step-fall connector from RECYFIX HICAP 3000 to RECYFIX HICAP 2000	-	180	245	1,00	13019
Step-fall ramp, stainless steel, from RECYFIX HICAP 2000 to RECYFIX HICAP 1000	99	97	-	0,25	13195

RECYFIX HICAPF 3000 up to load class F 900

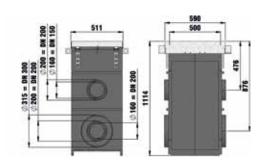




	Length mm	Width mm	Height mm	Drainage cross-sect. cm²	Intake cross-sect. cm²/m	Funnel H mm	Weight kg	Item No.
Type 3200, mesh 13/28 mm	1000	210	580	460	172	200	12,40	13220
Type 3200, slot 28 mm	1000	210	580	460	248	200	11,29	13230
Type 3200, slot 14 mm	1000	210	580	460	124	200	11,95	13225

RECYFIX HICAPF Trash boxes







Step-fall connector from RECYFIX HICAP 3000 to RECYFIX HICAP 2000

Trash box complete with ductile iron grating SW 3x140/20 mm, class E 600

	Length mm	Width mm	Height mm	Weight kg	Item No.
Trash box complete with ductile iron grating SW 3x140/20 mm, class E 600	511	590	1114	101,00	16500
Trash box complete with solid ductile iron cover, class E 600	511	590	1114	103,50	16505
Trash box connector incl. assembling, RECYIFIX HICAP 1000	-	-	-	2,73	881
Trash box connector incl. assembling, RECYFIX HICAP 2000	-	-	-	4,10	882
Trash box connector incl. assembling, RECYFIX HICAP 3000	-	-	-	3,90	884
Trash box connector incl. assembling, RECYFIX HICAP 5000	-	-	-	3,80	886
Trash box connector incl. assembling, RECYFIX HICAP 10000	-	-	-	4,70	888

RECYFIX HICAPF 3000, Accessories



End cap closed, galvanised, type 3000



End cap with PVC-U pipe outlet DN/OD 160, galvanised, type 3000

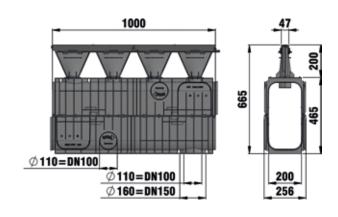


End cap with PVC-U pipe outlet DN/OD 110, galvanised, type 2000

	Length mm	Width mm	Height mm	Weight kg	Item No.
End cap closed, galvanised, type 3000	-	190	370	2,00	13212
End cap with PVC-U pipe outlet DN/OD 160, galvanised, type 3000	-	190	370	2,40	13215
End cap with PVC-U pipe outlet DN/OD 110, galvanised, type 2000	-	140	350	2,00	13015
Step-fall connector from RECYFIX HICAP 3000 to RECYFIX HICAP 2000	-	180	345	2,00	13017

RECYFIX HICAPF 5000 up to load class F 900

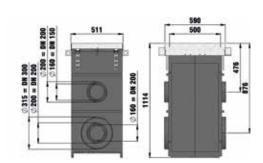




	Length mm	Width mm	Height mm	Drainage cross-sect. cm	Intake cross-sect. cm/m	Funnel H mm	Weight kg	Item No.
Type 5200, mesh 13/28 mm	1000	256	665	790	172	200	13,90	13420
Type 5200, slot 28 mm	1000	256	665	790	248	200	12,61	13430
Type 5200, slot 14 mm	1000	256	665	790	124	200	13,45	13425

RECYFIX HICAPF Trash boxes





Trash box complete with ductile iron grating SW 3x140/20 mm, class E 600

	Length mm	Width mm	Height mm	Weight kg	Item No.
Trash box complete with ductile iron grating SW 3x140/20 mm, class E 600	511	590	1114	101,00	16500
Trash box complete with solid ductile iron cover, class E 600	511	590	1114	103,50	16505
Trash box connector incl. assembling, RECYIFIX HICAP 1000	-	-	-	2,73	881
Trash box connector incl. assembling, RECYFIX HICAP 2000	-	-	-	4,10	882
Trash box connector incl. assembling, RECYFIX HICAP 3000	-	-	-	3,90	884
Trash box connector incl. assembling, RECYFIX HICAP 5000	-	-	-	3,80	886
Trash box connector incl. assembling, RECYFIX HICAP 10000	-	-	-	4,70	888

RECYFIX HICAPF 5000, **Accessories**



End cap closed, galvanised, type 5000



End cap with PVC-U pipe outlet DN/OD 200, galvanised, type 5000

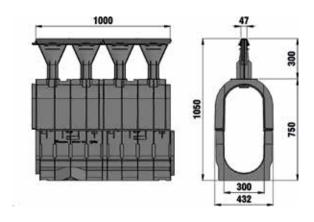


Step-fall connector from RECYFIX HICAP 5000 to RECYFIX HICAP 3000

	Length mm	Width mm	Height mm	Weight kg	Item No.
End cap closed, galvanised, type 5000	-	240	450	2,00	13412
End cap with PVC-U pipe outlet DN/OD 200, galvanised, type 5000	-	240	450	2,10	13415
Step-fall connector from RECYFIX HICAP 5000 to RECYFIX HICAP 3000	-	-	-	2,20	13217
Step-fall ramp, stainless steel, from RECYFIX HICAP 5000 to RECYFIX HICAP 3000	84	197	80	0,48	13295

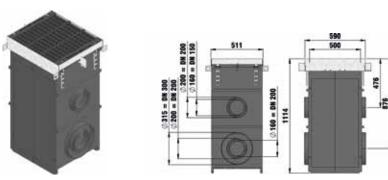
RECYFIX HICAPF 8000 up to load class F 900





	Length mm	Width mm	Height mm	Drainage cross-sect. cm²	Intake cross-sect. cm²/m	Funnel H mm	Weight kg	Item No.
Type 8300, mesh 13/28 mm	1000	432	1050	1714	172	300	24,10	13670
Type 8300, slot 28 mm	1000	432	1050	1714	248	300	22,24	13680
Type 8300, slot 14 mm	1000	432	1050	1714	124	300	23,77	13675

RECYFIX HICAPF Trash boxes



Trash box complete with ductile iron grating SW 3x140/20 mm, class E 600

	Length mm	Width mm	Height mm	Weight kg	Item No.
Trash box complete with ductile iron grating SW 3x140/20 mm, class E 600	511	590	1114	101,00	16500
Trash box complete with solid ductile iron cover, class E 600	511	590	1114	103,50	16505
Trash box connector incl. assembling, RECYIFIX HICAP 1000	-	-	-	2,73	881
Trash box connector incl. assembling, RECYFIX HICAP 2000	-	-	-	4,10	882
Trash box connector incl. assembling, RECYFIX HICAP 3000	-	-	-	3,90	884
Trash box connector incl. assembling, RECYFIX HICAP 5000	-	-	-	3,80	886
Trash box connector incl. assembling, RECYFIX HICAP 10000	-	-	-	4,70	888

RECYFIX HICAPF 8000, Accessories



End cap closed, galvanised, type 8000



End cap with PVC-U pipe outlet DN/OD 200, galvanised, type 8000

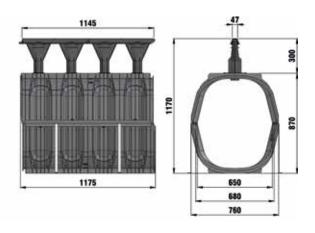


Step-fall connector from RECYFIX HICAP 8000 to RECYFIX HICAP 5000

	Length mm	Width mm	Height mm	Weight kg	Item No.
End cap closed, galvanised, type 8000	_	420	720	3,00	13612
End cap with PVC-U pipe outlet DN/OD 200, galvanised, type 8000	-	420	720	5,60	13615
Step-fall connector from RECYFIX HICAP 8000 to RECYFIX HICAP 5000	-	-	-	2,00	13417
Step-fall ramp, stainless steel, from RECYFIX HICAP 8000 to RECYFIX HICAP 5000	258	291	254	1,95	13695

RECYFIX HICAPF 10000 up to load class F 900

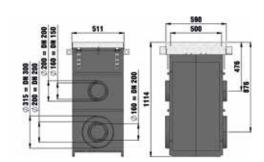




	Length mm	Width mm	Height mm	Drainage cross-sect. cm²	Intake cross-sect. cm²/m	Funnel H mm	Weight kg	Item No.
Type 10300, mesh 13/28 mm	1145	760	1170	4430	172	300	31,20	13870
Type 10300, slot 28 mm	1145	760	1170	4430	248	300	31,18	13880
Type 10300, slot 14 m	1145	760	1170	4430	-	300	32,17	13885

RECYFIX HICAPF Trash boxes





Trash box complete with ductile iron grating SW 3x140/20 mm, class E 600

	Length mm	Width mm	Height mm	Weight kg	Item No.
Trash box complete with ductile iron grating SW 3x140/20 mm, class E 600	511	590	1114	101,00	16500
Trash box complete with solid ductile iron cover, class E 600	511	590	1114	103,50	16505
Trash box connector incl. assembling, RECYIFIX HICAP 1000	-	-	-	2,73	881
Trash box connector incl. assembling, RECYFIX HICAP 2000	-	-	-	4,10	882
Trash box connector incl. assembling, RECYFIX HICAP 3000	-	-	-	3,90	884
Trash box connector incl. assembling, RECYFIX HICAP 5000	-	-	-	3,80	886
Trash box connector incl. assembling, RECYFIX HICAP 10000	-	-	-	4,70	888

RECYFIX HICAPF 10000, Accessories



Step-fall connector from RECYFIX HICAP 10000 to RECYFIX HICAP 8000



Step-fall ramp, stainless steel, from RECYFIX HICAP 10000 to RECYFIX HICAP 8000

	Length mm	Width mm	Height mm	Weight kg	Item No.
2 x end caps, black, incl. assembly set	-	-	-	4,42	96002
Step-fall connector from RECYFIX HICAP 10000 to RECYFIX HICAP 8000	-	-	-	5,00	13617

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