DRAINAGE IN
ITS BEST FORM BIRCO

BIRCOmax-i
The infrastructure channel

Large retention volume and maximum stability

BIRCOmax-i | Maximum retention with maximum stability

Facing the challenges of climate change in the most optimal way. The channel with enormous retention volumes can collect up to 512 liters per running meter, providing immediate storage. In the process, the optimized hyperbola design masters even the highest loads – especially in the case of Type I installation.

+ A 15 to F 900

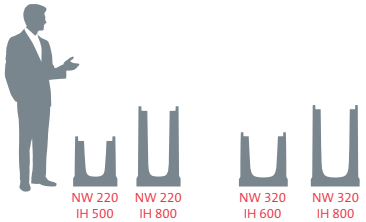
+ Retention

For rapid drainage of areas subjected to high loads. The large choice of installation heights and lengths offers maximum planning freedom.

BIRCOmax-i | Application areas

+ Airports / Airside
+ Sea and inland ports
+ Industry and logistics centers
+ Parking lots with turning trucks
+ Forecourts of public buildings, train stations, schools and event venues
+ Traffic routes
+ Anywhere where large volumes of water need to be immediately absorbed
+ Addition to sewage networks

BIRCOmax-i | Variety



BIRCOmax-i | Facts

- + Channel system: NW 220, 320, 420, 520, each one available with several installation heights
- + High-quality C 60/75 concrete
- + Installation lengths: 1.50 and 3.00 meters
- + New BIRCO hyperbola structural shape for maximum stability
- + Type I installation
- + 5 mm cast iron frame with CDP coating
- + Shift protection and 8-point per meter M12 bolt connection on grating
- + Continuous float guard
- + Specialist WRA jointing
- + Load class: A 15 – F 900, EN 1433
- + High inflow volumes
- + Short delivery times even for large quantities

Illustration:
Nominal width 520,
installation height 1200

BIRCOmax-i | Maximum everything

BIRCOmax-i combines the best characteristics of modern channel systems with optimized performance.

Fast and safe installation

+ Up to 3 meter channel elements guarantee fast laying with a low number of joints.
+ One-piece channel element for installation as Type I.

Corrosion protection

+ Stability and corrosion protection: 5 mm cast iron frame anchored in concrete.
+ CDP coating.

Laying from above

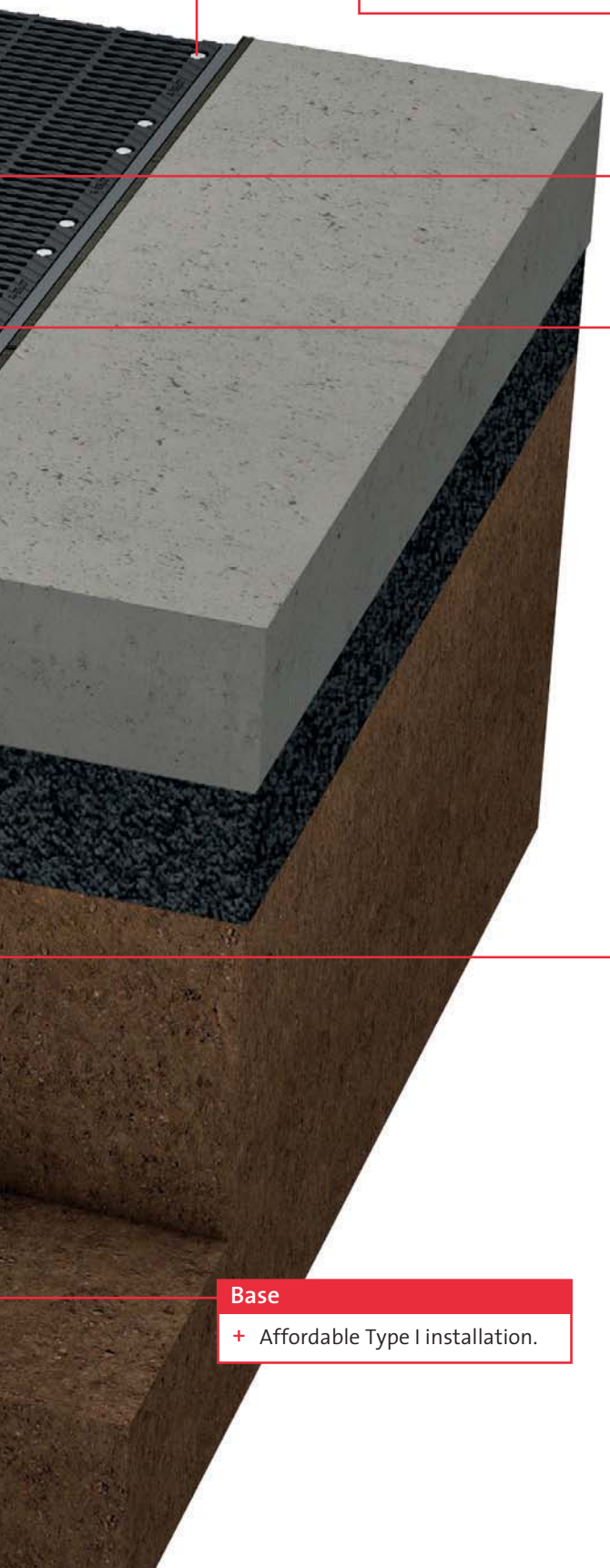
+ Installation possible with laying anchors in the screw threads.

High-quality raw materials

+ High-quality C 60/75 concrete.
+ High-quality steel reinforcement.
+ Compressive strength.
+ Resistance to frost and de-icing salt.
+ Durability and protection of investment.
+ CE-compliant.

New design: BIRCO hyperbola

+ Optimum BIRCO hyperbola design for maximum stability and distribution of forces.



Stability

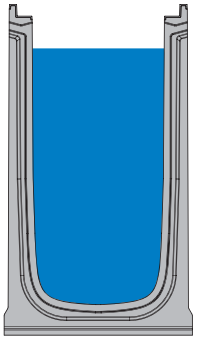
+ High level of traffic safety thanks to 8-point per meter M12 bolt connection.
+ Integrated shift protection between angle and grating.

Drainage performance

+ High inlet cross-section.

Maximum volumes

+ Immediate drainage even in heavy rain.
+ Hydraulic advantage.
+ Impressive retention volumes: up to 512 liters per running meter.



BIRCO sealing gap

+ The transitions to the channel joint fit precisely and enable specialist WRA jointing. The design enables laying from above.

Base

+ Affordable Type I installation.

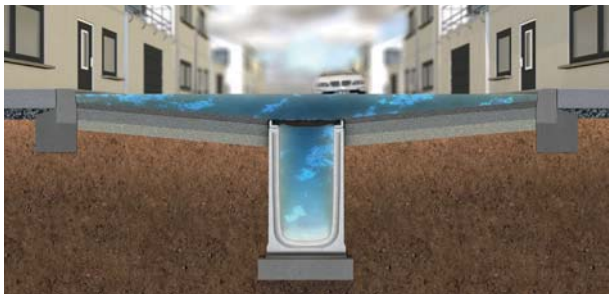
Availability

+ Thanks to the most innovative production technology, even large quantities of extremely bulky components can be delivered at short notice.

BIRCOmax-i | Planning suggestions

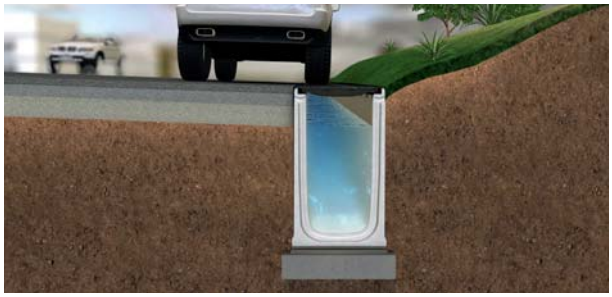
Large areas

BIRCOmax-i enables near-surface, quick drainage of large areas. The channel gully serves as an immediate storage area and noticeably diffuses the situation. On large drain traps, the added volume makes a noticeable difference to downstream drains, cisterns or infiltration ditches.



Additional retention area for motorways.

Modern planning methods regularly utilize the motorway as an initial retention space. With an adequate incline, a few thousand liters can be collected. With BIRCOmax-i blockages at points of entry are prevented, and the storage capacity is once again drastically increased.

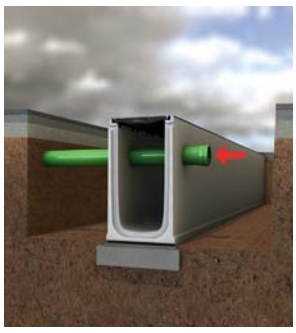


Diffusing traffic routes with inclines

Sharp curves or historically established traffic routes often represent a danger. In heavy rain, large quantities of water collect on the inside.

Network as an overall concept

With large-scale planning, BIRCOmax-i can also be planned as a water network. The volumes can be compared to those of a stream. In this way, large quantities of water can be controlled in a targeted way and sewer networks can be relieved.



Integrating a crossing infrastructure

Conflicts with crossing infrastructures can be easily circumvented by a transition piece with a smaller installation height with adapter plates.
We will be delighted to advise you about individual modifications.

References: Lauterbourg / Strasbourg Port chooses BIRCOmax-i – in keeping with the times

One of the largest inland port operators, Port Autonome de Strasbourg, is carrying out a strategic expansion of its capacities at its port facility in Lauterburg. BIRCO comprehensively supported the planning of the logistics area with calculations during the design phase.

Optimized installation

It did not take long for the planners to choose the BIRCOmax-i channel system. All the characteristics of this modern drainage system are simply convincing. The Type I components offer decisive advantages already during the installation phase. The fact that there is no lateral sheathing eliminates laborious processing steps. The large, three-meter components ensure rapid progress at the construction site and less joints make operations more secure. The innovative channel design also guarantees utmost stability even at maximum load.

High performance

Nominal width 320 with installation height 600 mm is also future-proof. To react to climate change and heavy rainfall, BIRCOmax-i with its huge immediate storage capacity, close to the surface, is a state-of-the-art solution for underground construction. The system is connected via NW 300 bore holes – which means that there is no backlog, and the large port areas are rapidly drained.

Permanent stability

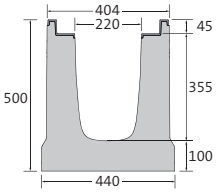
The surface protection provided by the cast iron frame anchored in the concrete protects the surface of the channel component. The load-bearing hyperbola design of BIRCOmax-i has been specially developed for heavy duty areas. This enables undisturbed operation in the long term. Particularly in port facilities subject to high continuous loads.

BIRCOmax-i | NW 220

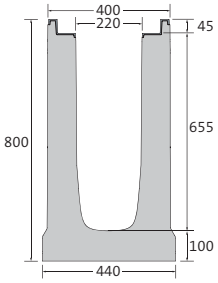
Supreme stability and maximum retention volume

Channel elements | without internal inbuilt fall

+ With cast-in 5 mm ductile iron frame
+ Frame with surface protection
+ Reinforced concrete
+ Safety sealing joint



Constr. height 500



Constr. height 800

Description	Length	Width at top/ at ground	Constr. height at groove/ at tongue	Internal heigt at groove/ at tongue	Weight	Retention volume per rm	Load class EN 1433	Article No.
Channel H 500	1500 mm	404/440 mm	500/500 mm	355/355 mm	438.5 kg	70.3 l	A 15 – F 900	0682200527
Channel H 500	3000 mm	404/440 mm	500/500 mm	355/355 mm	877.0 kg	70.3 l	A 15 – F 900	0682200529
Channel H 800	1500 mm	400/440 mm	800/800 mm	655/655 mm	635.0 kg	135.1 l	A 15 – F 900	0682200827
Channel H 800	3000 mm	400/440 mm	800/800 mm	655/655 mm	1270.0 kg	135.1 l	A 15 – F 900	0682200829

Ductile iron slotted gratings | twofold

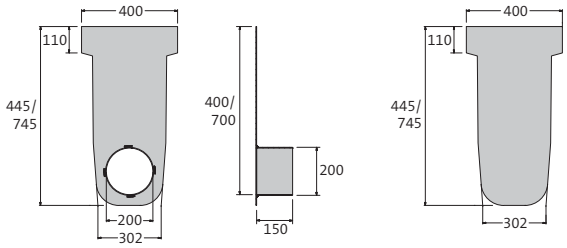
+ Black immersion-lacquered
+ Also available as galvanized version
+ 8 point per metre M12/A2 bolt connection

Description	Length	Width	Height	Weight	Inlet opening	Inlet cross section	Article No.
Class D 400	498 mm	337 mm	45 mm	10.3 kg	SW 119.5/17.5 mm	1114 cm²/m	0682200091
Class E 600	498 mm	337 mm	45 mm	15.6 kg	SW 119.5/17.5 mm	1114 cm²/m	0682200092
Class F 900	498 mm	337 mm	45 mm	18.0 kg	SW 119.5/17.5 mm	1114 cm²/m	0682200093

Exception up to D 400: Not for use across the carriage way of highways or motorways.

End caps

+ Hot-dipped galvanized steel



Description	Width	For construction height	Weight	Article No.
Endcap, galvanized, H 500	400 mm	500 mm	3.2 kg	0682200540
Endcap, galvanized, H 800	400 mm	800 mm	5.4 kg	0682200840
Endcap with outlet DN 200, galvanized, H 500	400 mm	500 mm	4.7 kg	0682200545
Endcap with outlet DN 200, galvanized, H 800	400 mm	800 mm	6.9 kg	0682200845

BIRCOmax-i Rotatable lifting point

Description	Load capacity	Weight (Set)	Article No.
BIRCOmax-i Rotatable lifting point, Set of 4	1.00 t	2.0 kg	606108

BIRCOservice | SF-Connect

+ Sealing of the BIRCO safety joint with SF-Connect provides additional security.

BIRCOservice | Tender texts

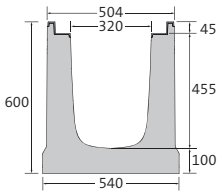
+ You can find the suitable tender texts for the BIRCO products on our website: www.birco.com/service/downloads/tender-text/

BIRCOmax-i | NW 320

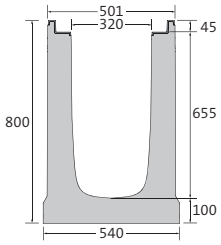
Supreme stability and maximum retention volume

Channel elements | without internal inbuilt fall

+ With cast-in 5 mm ductile iron frame
+ Frame with surface protection
+ Reinforced concrete
+ Safety sealing joint



Constr. height 600



Constr. height 800

Description	Length	Width at top/ at ground	Constr. height at groove/ at tongue	Internal heigt at groove/ at tongue	Weight	Retention volume per rm	Load class EN 1433	Article No.
Rinne BH 600	1500 mm	504/540 mm	600/600 mm	455/455 mm	557.0 kg	132.6 l	A 15 – F 900	0683200627
Rinne BH 600	3000 mm	504/540 mm	600/600 mm	455/455 mm	1114.0 kg	132.6 l	A 15 – F 900	0683200629
Rinne BH 800	1500 mm	501/540 mm	800/800 mm	655/655 mm	687.0 kg	195.8 l	A 15 – F 900	0683200827
Rinne BH 800	3000 mm	501/540 mm	800/800 mm	655/655 mm	1378.0 kg	195.8 l	A 15 – F 900	0683200829

Ductile iron slotted grating | twofold

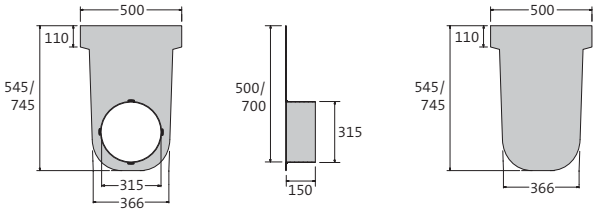
+ Black immersion-lacquered
+ Also available as galvanized version
+ 8 point per metre M12/A2 bolt connection

Description	Length	Width	Height	Weight	Inlet opening	Inlet cross section	Article No.
Class D 400	498 mm	437 mm	45 mm	18.6 kg	SW 162/17.5 mm	1531 cm²/m	0683200091
Class E 600	498 mm	437 mm	45 mm	24.8 kg	SW 162/17.5 mm	1531 cm²/m	0683200092
Class F 900	498 mm	437 mm	45 mm	29.8 kg	SW 162/17.5 mm	1531 cm²/m	0683200093

Exception up to D 400: Not for use across the carriage way of highways or motorways.

End caps

+ Hot-dipped galvanized steel



Description	Width	For construction height	Weight	Article No.
Endcap, galvanized, H 600	500 mm	600 mm	5.1 kg	0683200640
Endcap, galvanized, H 800	500 mm	800 mm	7.0 kg	0683200840
Endcap with outlet DN 300, galvanized, H 600	500 mm	600 mm	6.8 kg	0683200645
Endcap with outlet DN 300, galvanized, H 800	500 mm	800 mm	8.7 kg	0683200845

BIRCOmax-i Rotatable lifting point

Description	Load capacity	Weight (Set)	Article No.
BIRCOmax-i Rotatable lifting point, Set of 4	1.00 t	2.0 kg	606108

BIRCOservice | SF-Connect

+ Sealing of the BIRCO safety joint with SF-Connect provides additional security.

BIRCOservice | Tender texts

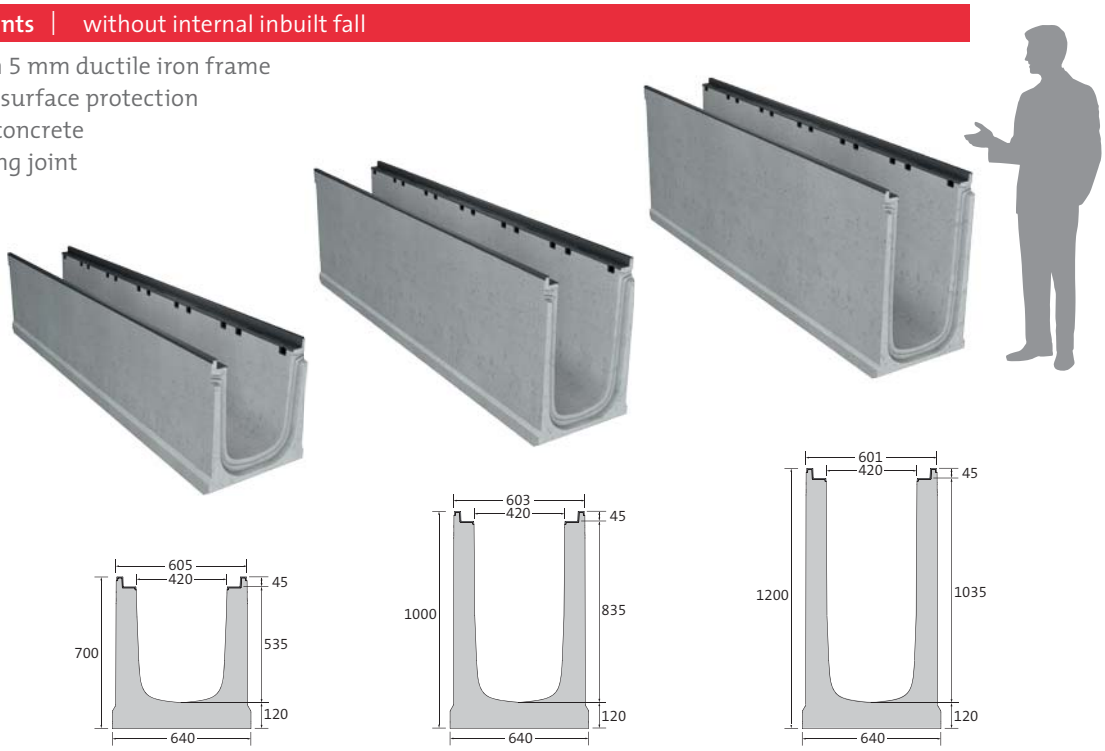
+ You can find the suitable tender texts for the BIRCO products on our website: www.birco.com/service/downloads/tender-text/

BIRCOmax-i | NW 420

Supreme stability and maximum retention volume

Channel elements | without internal inbuilt fall

+ With cast-in 5 mm ductile iron frame
+ Frame with surface protection
+ Reinforced concrete
+ Safety sealing joint



Constr. height 700

Constr. height 1000

Constr. height 1200

Description	Length	Width at top/ at ground	Constr. height at groove/ at tongue	Internal heigt at groove/ at tongue	Weight	Retention volume per rm	Load class EN 1433	Article No.
Channel H 700	1500 mm	605/640 mm	700/700 mm	535/535 mm	707.5 kg	206.3 l	A 15 – F 900	0684200727
Channel H 700	3000 mm	605/640 mm	700/700 mm	535/535 mm	1415.0 kg	206.3 l	A 15 – F 900	0684200729
Channel H 1000	1500 mm	603/640 mm	1000/1000 mm	835/835 mm	905.5 kg	331.1 l	A 15 – F 900	0684201027
Channel H 1000	3000 mm	603/640 mm	1000/1000 mm	835/835 mm	1811.0 kg	331.1 l	A 15 – F 900	0684201029
Channel H 1200	1500 mm	601/640 mm	1200/1200 mm	1035/1035 mm	1035.0 kg	414.3 l	A 15 – F 900	0684201227
Channel H 1200	3000 mm	601/640 mm	1200/1200 mm	1035/1035 mm	2074.0 kg	414.3 l	A 15 – F 900	0684201229

BIRCOservice | SF-Connect

+ Sealing of the BIRCO safety joint with SF-Connect provides additional security.

BIRCOservice | Tender texts

+ You can find the suitable tender texts for the BIRCO products on our website: www.birco.com/service/downloads/tender-text/

Exception up to D 400: Not for use across the carriage way of highways or motorways.

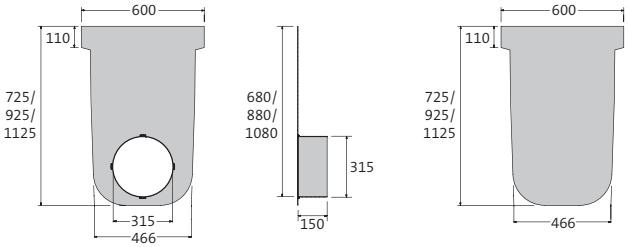
Ductile iron slotted grating | threefold

+ Black immersion-lacquered
+ Also available as galvanized version
+ 8 point per metre M12/A2 bolt connection

Description	Length	Width	Height	Weight	Inlet opening	Inlet cross section	Article No.
Class D 400	498 mm	537 mm	45 mm	25.7 kg	SW 139/17.5 mm	1968 cm²/m	0684200091
Class E 600	498 mm	537 mm	45 mm	38.1 kg	SW 139/17.5 mm	1968 cm²/m	0684200092
Class F 900	498 mm	537 mm	45 mm	44.8 kg	SW 139/17.5 mm	1968 cm²/m	0684200093

End caps

+ Hot-dipped galvanized steel



Description	Width	For construction height	Weight	Article No.
Endcap, galvanized, H 700	600 mm	700 mm	7.3 kg	0684200740
Endcap, galvanized, H 1000	600 mm	1000 mm	10.8 kg	0684201040
Endcap, galvanized, H 1200	600 mm	1200 mm	13.2 kg	0684201240
Endcap with outlet DN 300, galvanized, H 700	600 mm	700 mm	9.0 kg	0684200745
Endcap with outlet DN 300, galvanized, H 1000	600 mm	1000 mm	12.5 kg	0684201045
Endcap with outlet DN 300, galvanized, H 1200	600 mm	1200 mm	14.9 kg	0684201245

BIRCOmax-i Rotatable lifting point

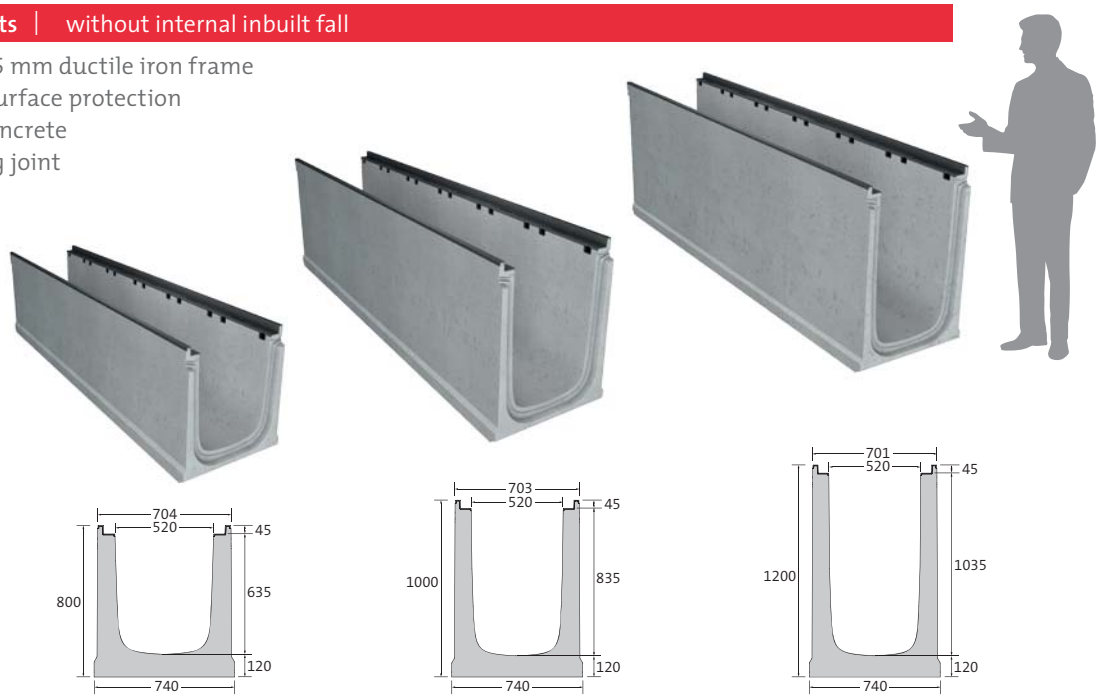
Description	Load capacity	Weight (Set)	Article No.
BIRCOmax-i Rotatable lifting point, Set of 4	1.00 t	2.0 kg	606108

BIRCOmax-i | NW 520

Supreme stability and maximum retention volume

Channel elements | without internal inbuilt fall

+ With cast-in 5 mm ductile iron frame
+ Frame with surface protection
+ Reinforced concrete
+ Safety sealing joint



Constr. height 800 | **Constr. height 1000** | **Constr. height 1200**

Description	Length	Width at top/ at ground	Constr. height at groove/ at tongue	Internal heigt at groove/ at tongue	Weight	Retention volume per rm	Load class EN 1433	Article No.
Channel H 800	1500 mm	704/740 mm	800/800 mm	635/635 mm	833.0 kg	306.4 l	A 15 – F 900	0685200827
Channel H 800	3000 mm	704/740 mm	800/800 mm	635/635 mm	1666.0 kg	306.4 l	A 15 – F 900	0685200829
Channel H 1000	1500 mm	703/740 mm	1000/1000 mm	835/835 mm	965.0 kg	409.6 l	A 15 – F 900	0685201027
Channel H 1000	3000 mm	703/740 mm	1000/1000 mm	835/835 mm	1930.0 kg	409.6 l	A 15 – F 900	0685201029
Channel H 1200	1500 mm	701/740 mm	1200/1200 mm	1035/1035 mm	1094.0 kg	512.8 l	A 15 – F 900	0685201227
Channel H 1200	3000 mm	701/740 mm	1200/1200 mm	1035/1035 mm	2193.0 kg	512.8 l	A 15 – F 900	0685201229

BIRCOservice | SF-Connect

+ Sealing of the BIRCO safety joint with SF-Connect provides additional security.

BIRCOservice | Tender texts

+ You can find the suitable tender texts for the BIRCO products on our website: www.birco.com/service/downloads/tender-text/

Exception up to D 400: Not for use across the carriage way of highways or motorways.

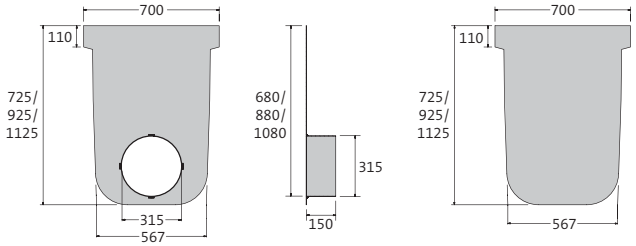
Ductile iron slotted grating | threefold

+ Black immersion-lacquered
+ Also available as galvanized version
+ 8 point per metre M12/A2 bolt connection

Description	Length	Width	Height	Weight	Inlet opening	Inlet cross section	Article No.
Class D 400	498 mm	633 mm	45 mm	35.8 kg	SW 172/17.5 mm	2446 cm²/m	0685200091
Class E 600	498 mm	633 mm	45 mm	45.4 kg	SW 172/17.5 mm	2446 cm²/m	0685200092
Class F 900	498 mm	633 mm	45 mm	53.4 kg	SW 172/17.5 mm	2446 cm²/m	0685200093

End caps

+ Hot-dipped galvanized steel



Description	Width	For construction height	Weight	Article No.
Endcap, galvanized, H 800	700 mm	800 mm	10.1 kg	0685200840
Endcap, galvanized, H 1000	700 mm	1000 mm	12.9 kg	0685201040
Endcap, galvanized, H 1200	700 mm	1200 mm	15.8 kg	0685201240
Endcap with outlet DN 300, galvanized, H 800	700 mm	800 mm	11.8 kg	0685200845
Endcap with outlet DN 300, galvanized, H 1000	700 mm	1000 mm	14.6 kg	0685201045
Endcap with outlet DN 300, galvanized, H 1200	700 mm	1200 mm	17.5 kg	0685201245

BIRCOmax-i Rotatable lifting point

Description	Load capacity	Weight (Set)	Article No.
BIRCOmax-i Rotatable lifting point, Set of 4	1.00 t	2.0 kg	606108

BIRCOmax-i | Installation instructions

Certain details must be taken into consideration when installing BIRCOmax-i. You will find an extensive description here.

The base courses must be frost-resistant and designed according to the latest version of RSTO (guidelines for the standardization of pavement structures of traffic areas).
The base course must be designed in such a way that it is settlement-free and suitable for the forces that arise.

For heavily frequented, heavy load areas in load classes E 600 and F 900 such as logistics centers, transshipment centers, marshalling areas and airport surfaces a load distribution layer must be calculated by an engineering office in consideration of the arising loads and soil properties.

For heavily frequented areas in load class D 400, BIRCO recommends the installation instructions for load class E 600, with a load distribution layer calculated by an engineering office.

BIRCO recommends completely jointing the channel joint to avoid freeze/thaw damage (see jointing information).
Also to avoid freeze/thaw damage, it must be ensured that no water remains on the load distribution layer or the leveling layer.
Professional installation from a concrete technology perspective must be ensured.

All coverings (except for paving coverings):
The adjoining surface coverings must be permanently approx. 3 to 5 mm higher than the upper edge of the channel to ensure optimum protection of the channel.

For paving coverings:
To keep the adjacent paving permanently 3 to 5 mm above the upper edge, we recommend laying the first two to three rows in the mortar bed for paving coverings. Due to the lack of sheathing, the surface covering can be guided up to the gutter. For slab or paving connections, a permanent sealing gap of about 10 mm must be maintained between the channel and the covering. The joints between the first two to three series of slab or paving connections must be permanently sealed. It must be ensured that no horizontal forces act on the paving laid in the mortar bed due to displacement or expansion of the paving covering.

Expansion joints:
Expansion joints in components adjacent to the channel must be planned from an engineering perspective.
BIRCO recommends arranging expansion joints running parallel to the channel at a distance of 1 to 2 m to the channel section. Expansion joints running transverse to the channel section must be arranged so that they run through a channel joint. We recommend this arrangement every 9 to 12 running meters (according to DIN 18318, valid version). The expansion joints (e.g. PE foam boards) must run across the entire channel cross-section through the foundation and the lateral concrete casing.

Jointing information

Spray the channel joint/safety seam with SF Connect after laying the drainage channels.

Application area:
Bonding of concrete, brick, steel, stainless steel, aluminum, polyester (GRP), PVC, acrylic, polystyrene, glass, wood.

Properties:
Coated substrates must be checked in advance for adhesion and compatibility.
The setting time depends on the temperature and humidity. Increased temperatures reduce the setting time.
SF Connect does not contain any solvents, isocyanate or silicone and is not subject to labeling. Before the start of processing, find out about precautionary measures and safety recommendations by reading the Safety Data Sheet.

Operating instructions:
1. Use an industrial cartridge gun to spray the channel joint/safety seam.
2. **Important!** Before spraying the drainage channels, clean the channel joint/safety seam – remove any separating agents, dust, dirt, oil or other problematic substrates.
3. Insert the PE cord.
4. During processing, wear protective gloves and goggles.
5. Insert the tubular bag (600 ml) into the industrial cartridge gun.
6. Spray on SF connect.

7. Finally, smooth the joint/notch surface with a jointing iron or spatula dipped in a soap solution.
8. Allow the material residue to set. Set residues can be disposed of along with residual waste.

A note on the bolt connection

A tightening torque of M12 = 60 Nm must be applied for the bolt connection on the covers.

The bolts on the covers must be tightened at regular intervals.

Additional rules and guidelines

The local conditions must be checked and taken into account by the planner. Observe the current regulations and guidelines such as ZTVT, ZTV concrete, ZTV bit and RSTO.

+ **Construction according to German construction contract procedures (VOB), part C DIN 18318 “Traffic route engineering”.**
+ Additional technical regulations and guidelines for pavement surfaces in road construction (ZTVT-StB) and ZTV Asphalt.
+ Additional technical regulations and guidelines for ground work in road construction (ZTVT-StB).
+ Guidelines for the standardization of the pavement of public thoroughfares (RSTO).
+ Preparation of the ATV DIN 18299 performance description “General Regulations for Construction Work of all types”.
+ The respectively correct load class in accordance with EN 1433, “Drainage channels for vehicular and pedestrian areas”.

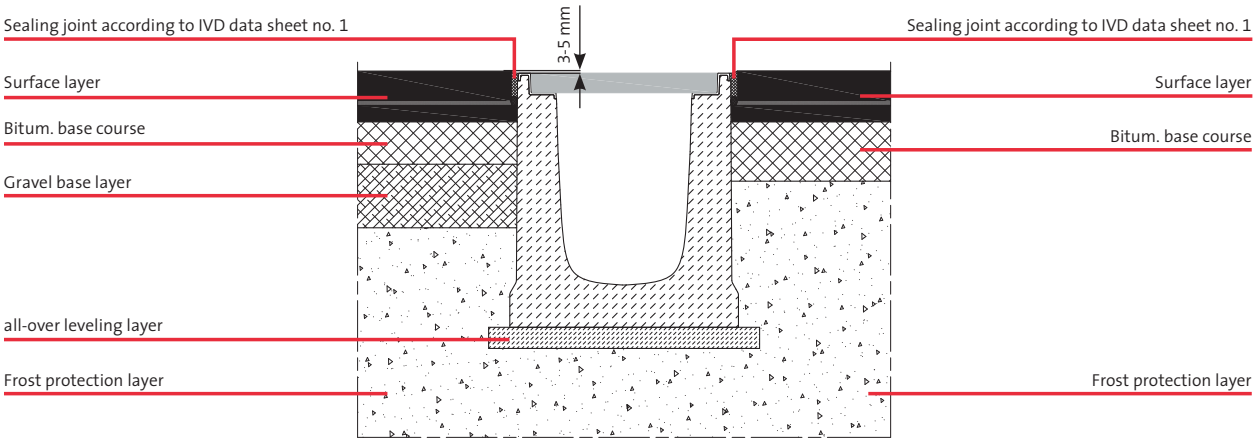
Notes

BIRCOmax-i – Installation examples

Installation instructions for traffic areas with high wheel loads.
Urban development | Industrial construction | Parking lots

BIRCOmax-i, Type I, class A 15 – D 400

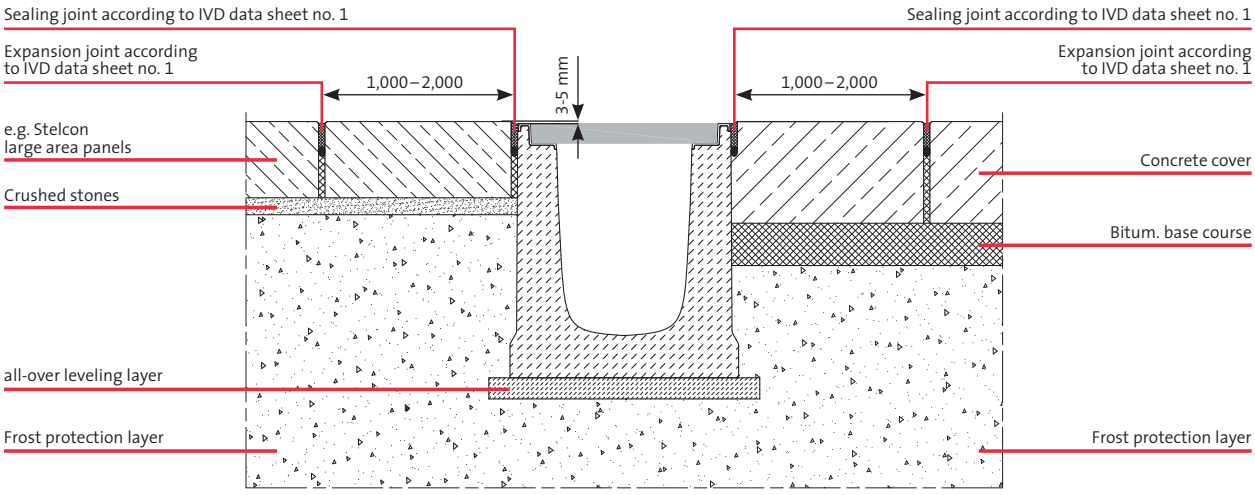
Drawing no. 21420



built according to RSTO with non-settling, frost-resistant base courses

BIRCOmax-i, Type I, class A 15 – D 400

Drawing no. 21420



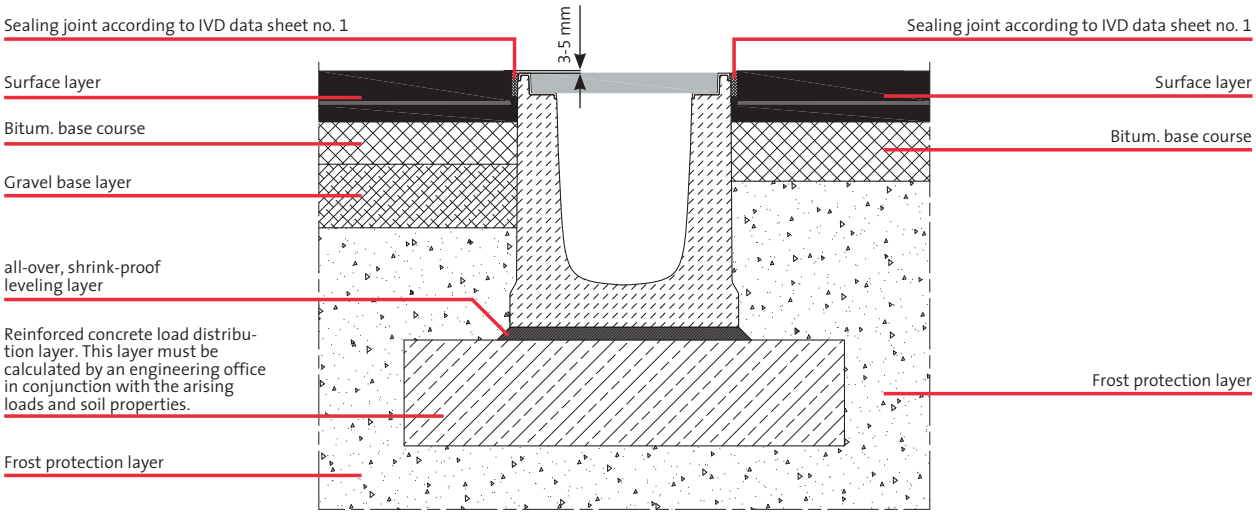
built according to RSTO with non-settling, frost-resistant base courses

Expansion joints must be planned from an engineering perspective. When planning the channel line, after 9 – 12 m, expansion joints must be formed transverse to the drain trap (in accordance with the applicable version of DIN 18318). They must be arranged so that they run through a channel joint.
Exception from D 400: not for installation transversely to the lane on motorways and expressways.

Expanded installation instructions for heavily frequented, heavy load areas. Logistics centers | Transshipment centers | Marshalling areas | Airport surfaces

BIRCOmax-i, Type I, class E 600 – F 900, D 400 (heavily frequented)

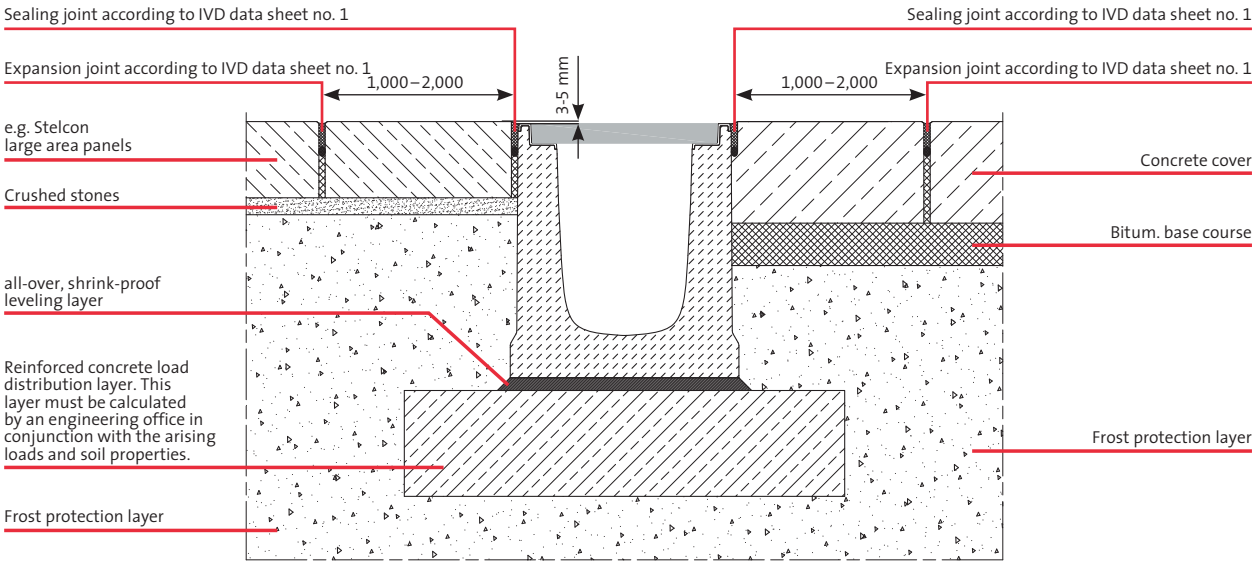
Drawing no. 21420



built according to RSTO with non-settling, frost-resistant base courses

BIRCOmax-i, Type I, class E 600 – F 900, D 400 (heavily frequented)

Drawing no. 21420



built according to RSTO with non-settling, frost-resistant base courses

Expansion joints must be planned from an engineering perspective. When planning the channel line, after 9 – 12 m, expansion joints must be formed transverse to the drain trap (in accordance with the applicable version of DIN 18318). They must be arranged so that they run through a channel joint.
Exception from D 400: not for installation transversely to the lane on motorways and expressways.

BIRCOmax-i drainage performance

BIRCO's channel systems have excellent drainage capacities. In addition to this table, BIRCO offers a property-related hydraulic calculation service.

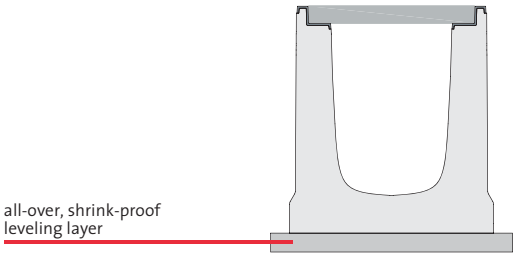
BIRCOmax-i

Nominal width	Installation height (mm)	Length (mm)	Drainage capacity at end of channel (l/sec)	Retention volume per running meter (l)	Channel cross-section (cm^2)	Pipe diameter DN / internal Ø (mm)	Pipe cross-section (cm^2)
220	500	1.5/3.0	39.06	70.30	703.0	300	707
220	800	1.5/3.0	75.06	135.10	1 351.0	400	1 256
320	600	1.5/3.0	73.67	132.60	1 326.0	400	1 256
320	800	1.5/3.0	108.78	195.80	1 958.0	500	1 963
420	700	1.5/3.0	114.61	206.30	2 063.0	500	1 963
420	1000	1.5/3.0	183.94	331.10	3 311.0	600	2 826
420	1200	1.5/3.0	230.17	414.30	4 143.0	700	3 847
520	800	1.5/3.0	170.22	306.40	3 064.0	600	2 826
520	1 000	1.5/3.0	227.56	409.60	4 096.0	700	3 847
520	1 200	1.5/3.0	284.89	512.80	5 128.0	800	5 024

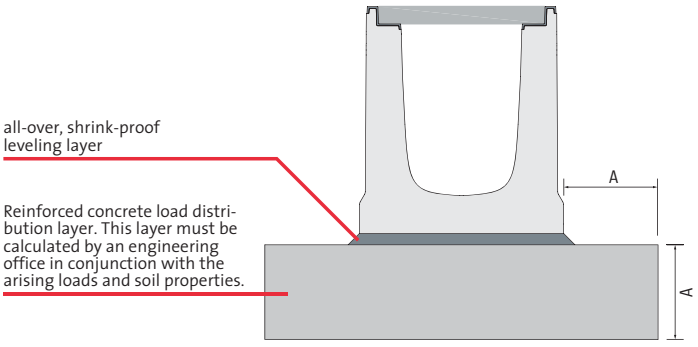
Comparison with standard pipes

Schematic layout Type I

Load classes A 15 – D 400

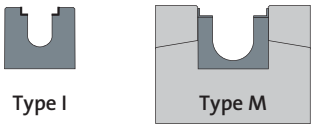


Load classes A 15 – F 900



Classification into 2 types

+ **Type I:** Does not require a load-bearing base or sheathing.
+ **Type M:** Requires a load-bearing base and/or sheathing.



Horizontal and vertical bores

Depending on the corresponding plan specifications, BIRCOmax-i channels can be provided with horizontal or vertical bore holes (bore holes must be set at a minimum distance of 100 mm from the bore hole outer edge to the end of the channel) for direct inflows and outflows. The possible connections differ for the nominal widths and range from DN 100 to DN 300. The diameters match KG pipes, bore holes for other types of pipes available on request.

BIRCOmax-i | Maximum bore hole diametre

Nominal width	Horizontal bore, maximum *	Vertical bore, maximum
220	DN 150	DN 200
320	DN 200	DN 300
420	DN 250	DN 300
520	DN 300	DN 300

*** Bore holes depending on installation height. Our Application Technology department will be delighted to advise you on individual designs.**

For a retention application, small outlets can be integrated or drains can be controlled by a throttle valve.

Jointing with SF Connect is recommended

Jointing the BIRCO safety seam with SF Connect additionally secures the tightness of the channel and protects the substructure.

Grout the channel joint/safety seam with SF Connect after laying the drainage channels. Additional application areas: Bonding of concrete, brick, steel, stainless steel, aluminum, polyester (GRP), PVC, acrylic, polystyrene, glass, wood.

Properties:

Coated substrates must be checked in advance for adhesion and compatibility. The setting time depends on the temperature and humidity. Increased temperatures reduce the setting time. SF Connect does not contain any solvents, Isocyanate or silicone and is not subject to labeling. Before the start of processing, find out about handling and safety recommendations by reading the Safety Data Sheet.

Advantage:

SF Connect can also be applied on damp substructures and can be processed without a pre-primer.

Material requirements

SF Connect's material requirements change according to the system and length of the channel section. On request, BIRCO can calculate this individually for your building.

Operating instructions:

1. Use an industrial cartridge gun to spray the channel joint/safety seam.
2. Important! Before spraying the safety seam, clean the channel joint/safety seam and remove any separating agents, dust, dirt, oil or other problematic substrates.
3. Insert the PE cord.
4. During processing, wear protective gloves and goggles.
5. Insert the tubular bag (600 ml) into the industrial cartridge gun.
6. Spray on SF connect.
7. Finally, smooth the joint/notch surface with a jointing iron or spatula dipped in a soap solution.
8. Allow the material residue to set. Set residues can be disposed of along with residual waste.

Maintenance instructions for BIRCO drainage systems

1. **Preliminary remarks**
   To continuously exploit the full hydraulic performance of our channel systems, ensure system safety and make sure that the covers are locked in a way that is safe for traffic, the drainage channels and / or other drains and / or installations, as well as their covers and fastening mechanisms must be cleaned and maintained at regular intervals.

2. **Cleaning and maintenance of drainage systems for application areas involving media which is not hazardous to water**
   BIRCO drainage systems should undergo a visual inspection regularly, however at least once a year. If any impurities from leaves, sand, dirt and / or filterable suspended solids are found that could reduce, restrict or even prevent drainage, they must be removed. Impurities in the drainage systems that are not subject to the regulations of the Ordinance on Waste Disposal (AVV) may be disposed of in the residual trash. (Observe the local waste disposal regulations in the process.)

   The completeness of the cover fastenings must be checked when inspecting the drainage systems. Missing or damaged parts must be replaced. The locks must be fastened with the specified tightening torques to prevent the covers from loosening and thus to avoid possible damage to the system.

3. **Cleaning the channels with tools**

3.1 Cleaning the drainage systems using shovel blades or similar tools
Block off the area so that it is safe for passing traffic according to the generally applicable rules.
Remove all covers and put them to one side next to the drainage channel.
Check the covers for any adhesion and remove this using a water jet for example.
Shovel the dirt out of the drainage channel and dispose of it according to the local regulations for waste disposal.
Blockages in the outgoing pipe system must be removed by means of a flushing lance or jet nozzle.
Insert the covers and lock them according to the installation instructions for the system.
If necessary, clean the area around the drainage system and remove the traffic security measure.

3.2 Cleaning with BIRCOeasyclean
Block off the area so that it is safe for passing traffic according to the generally applicable rules.
After fitting the BIRCOeasyclean flushing nozzle onto a compatible high-pressure cleaner, insert the BIRCOeasyclean through the drainage opening of the cover and flush towards the direction of the drain. Remove any stubborn adhesions on the covers using a water jet.
A working distance of about 2-3 meters per flush thrust is recommended when working in a splash water protected area. The cleaning direction must be selected facing towards the drain trap in order to remove the sludge tank in the drain trap after cleaning the channel, and to dispose of the dirt in the residual trash.
Blockages in the outgoing pipe system must be removed by means of a flushing lance or jet nozzle.
Insert the covers and lock them according to the installation instructions for the system.
If necessary, clean the area around the drainage system and remove the traffic security measure.

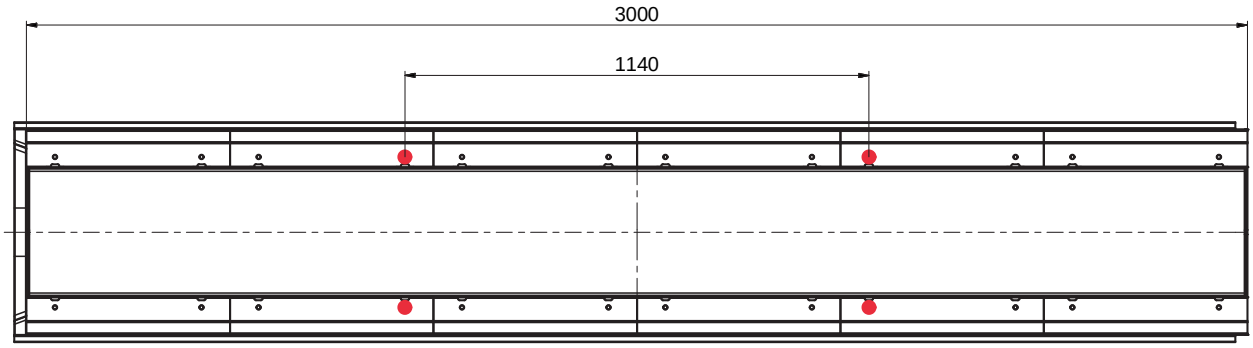
4. **Drainage systems with jointed component transitions**
   All joints must be checked at regular intervals in order to avoid damage.
   Weather, mechanical stress, decomposition from chemicals, damage to the structure, damage from animals or other situations may make a joint sealing unstable, thus impairing the function.
   It is most effective to perform the joint test during cooler ambient temperatures as this is when the components shrink the most and the joint is therefore at its widest.
   Pay particular attention to the general maintenance condition of the surrounding materials when checking the joints.
   The joints must be professionally repaired if any cracks are found in the sealant or if excessive deformations, chunking, detachment (loss of adhesion) of the component, hardening of the permanent elastic joint dimension, discolorations or similar are found.

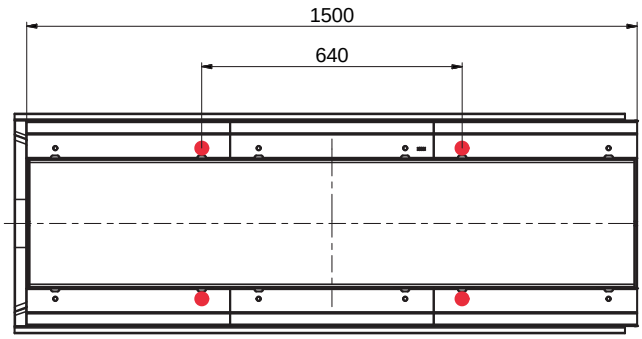
4.1 Restoration/repair of joints for application areas of media which is not hazardous to water
Damaged jointing must be completely removed so that it can be replaced with a continuous new joint. If necessary, the contact surfaces must be prepared for the adhesion of the jointing agent using a suitable tool.
Observe the product-specific instructions and regulations for working the joint.

5. **Spare parts and technical support are available from the following address**

BIRCO GmbH, Herrenpfädel 142, 76532 Baden-Baden
Tel.: +49 (0) 7221 5003-1000
info@birco.de
www.birco.de

BIRCOmax-i Rotatable lifting point





● Positioning of the rotatable lifting point

BIRCO GmbH
International
Herrenpfädel 142
76532 Baden-Baden
Phone +49 (0) 7221 5003-1120
Fax +49 (0) 7221 5003-1129
E-mail info@birco.com
Internet www.birco.com

Stay up to date

Facebook

facebook.com/birco.rinnensysteme

Twitter

www.twitter.com/BIRCO_DE

E-newsletter

www.birco.de/newsletter

Conferences and seminars

www.birco.de/tagungen-seminare

BIRCO Homepage

www.birco.de