

This is KESSEL

Market leading
innovative solutions – from one source.

This is KESSEL.

Since 1963, KESSEL has stood like no other company for innovative and reliable drainage technology. We have established ourselves as the impulse generator in the industry and are now a worldwide premium supplier.



Competent partner
since 1963



International player
**60+
countries**



Innovative premium supplier
**3.000+
products**



Safe employer
**550+
employees**



Sustainable company
**100+ mio. €
in sales**

During the production of our products as well as their operation on-site, we keep quality assurance, environmental protection and worker's safety at the top of our list.

We also place great value in the relationship with our customer, providing consultation, installation support, commissioning and after-sales service.

One thing is certain, our innovation, quality, reliability and service is number one in the industry.

KESSEL – Leading in drainage



Made in Germany





KESSEL Headquarters Lenting, Germany

Leading in drainage.

No matter whether the task involves discharging water, wastewater treatment or backwater protection: if the best solution is required, there is no option but KESSEL.

Backwater protection

Pump technology

Separator technology

Drainage technology



For further information
visit

www.kessel.com

Backwater protection and pump technology

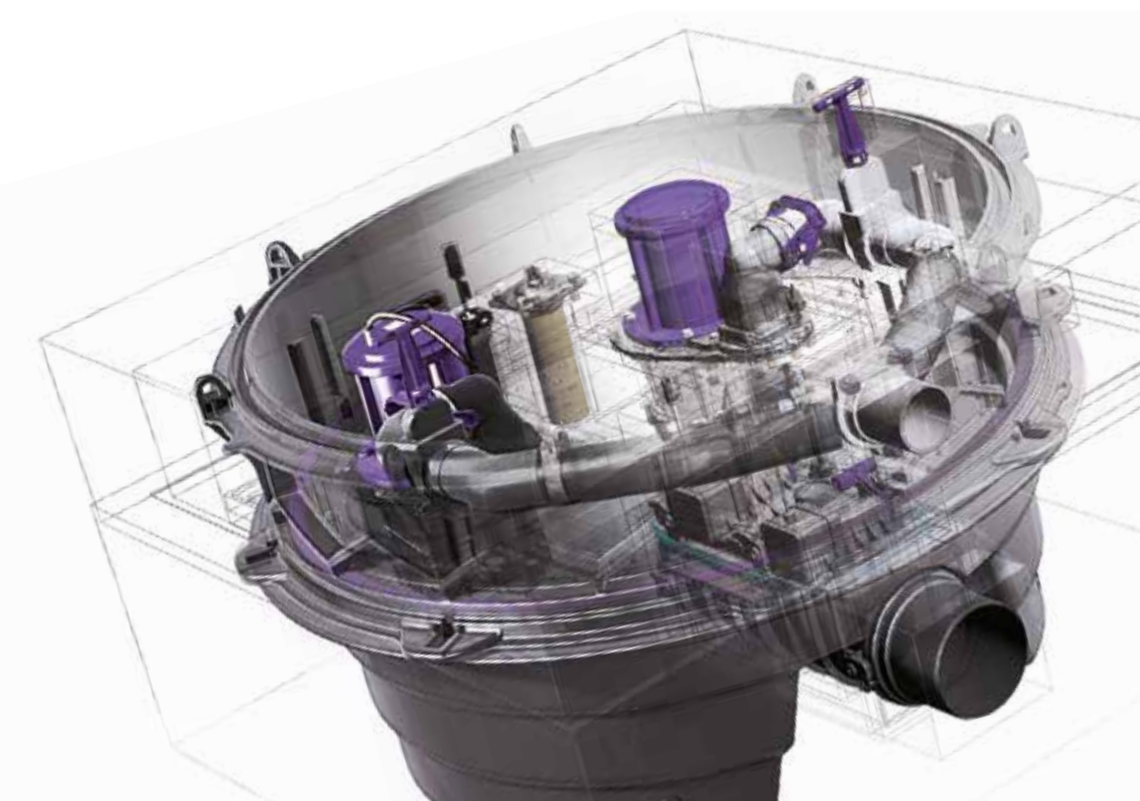
Backwater valves,
lifting stations, hybrid lifting
stations and pump stations

- Complete systems consisting of pumps, chambers and controls
- Online alarm and remote monitoring systems





Keeping
your building dry



Separator technology

HDPE (High Density Polyethylene)
grease separators *EasyClean*
according to EN 1825

- KESSEL – industry leader in polymer drainage products
- Long lasting, corrosion free, low maintenance
- Innovative solutions – for difficult applications

Oil / fuel / coalescence separators *EasyOil*
according to DN 858

- Long lasting and watertight
- Easy installation

Starch separators *EasyStarch*

Sediment separators *EasySink*



Innovative technology
**for the treatment of grease
and oil contaminated wastewater**



Drainage technology

Point, linear and wall drainage systems

- Manufactured from polymer, stainless steel and *Ecoguss*
- Fully certified F120 fire protection rating
- *The Ultraflat* bathroom drain with 63 mm installation height – lowest on the market
- *Multistop* – waterless odor trap
- *Lock & Lift* System – cover locking and removal system without screws





Professional and specification fulfilling
**Building and surface
water drainage**



Customized drainage concepts for project specific requirements



Individual solutions

Full service package

- Technical support
- Design and planning
- Quality check
- On-site assembly
- Commissioning support
- Service and maintenance



Service support

Design, Product and After-Sales-Service
from a single source.

Support during the design phase

We provide free support during the design phase to help offer you the most economical and technically advanced drainage solutions..

Support during installation

Contact our certified sales partner in your country who can offer specialized installation and commissioning support.

Service and maintenance

Certified service and maintenance personnel are available in all markets, contact your KESSEL partner for more information.

Professional development

Looking to learn more about the specification, installation and service of our products? Seminars are available in your local market or at our KESSEL headquarters in Germany.



Drainage solutions from KESSEL

Developed in Germany – used worldwide

References

Elbphilharmonie Hamburg, Germany	13
European Parliament, France	14
Mall of the Netherlands, Netherlands	15
Altair, Sri Lanka	16
Frankfurt Airport, Germany	17
Vakkaru Resort, Maldives	18
Zeleni Venac Parking Garage, Serbia	19
Porto Montenegro, Montenegro	20
Jewel of the Creek, UAE	21
Google, India	22
Hotel InterContinental Davos, Switzerland	23
Lindebjergskolen Hammerum, Denmark	24
Ministry of Foreign and European Affairs, Slovakia	25
Clinic Dr. Obad, Croatia	26
Syrovarnya & Caspar Restaurant Baku, Azerbaijan	27
Therme Bucuresti, Romania	28
Istanbul Airport, Turkey	29
Kempinski Hotel Muscat, Oman	30
More world wide references	31

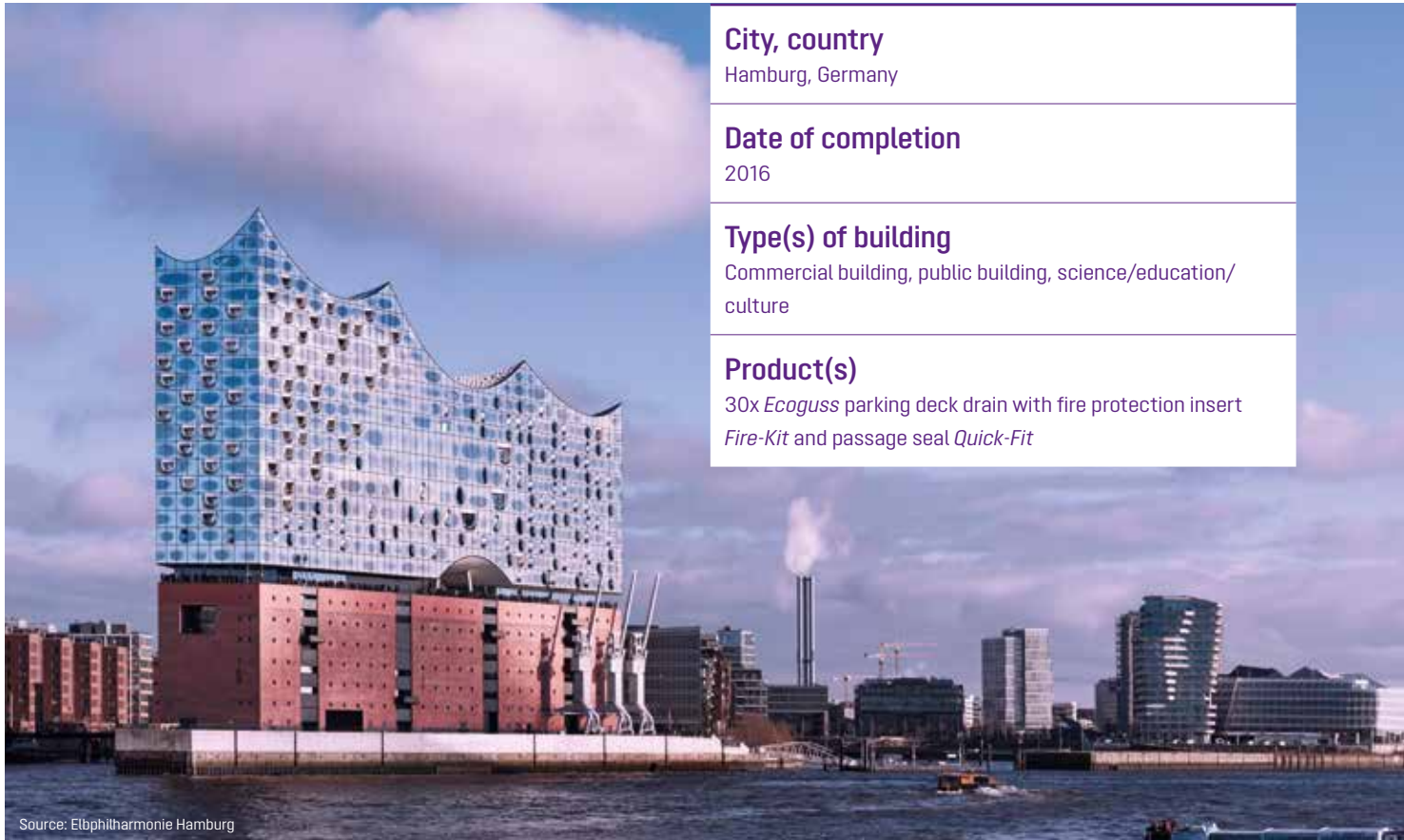
For more
references visit

www.kessel.com/references



Elbphilharmonie Hamburg

From the car park to the concert hall.



Source: Elbphilharmonie Hamburg

City, country

Hamburg, Germany

Date of completion

2016

Type(s) of building

Commercial building, public building, science/education/culture

Product(s)

30x *Ecoguss* parking deck drain with fire protection insert
Fire-Kit and passage seal *Quick-Fit*

Project requirements

Strict fire and noise protection requirements

Stability of the processes in the passable area

Reliable discharge of the waste water produced

KESSEL solutions

Guaranteed to comply with all (fire protection) regulations

High resistance

Uncomplicated project planning



Parking deck drain *Ecoguss*



Fire protection insert *Fire-Kit*



Passage seal *Quick-Fit*

European Parliament

The EU trusts in the drainage technology from KESSEL.

City, country

Straßbourg, France

Date of completion

2018

Type(s) of building

Science / education / culture, public building, gastronomy

Product(s)

Grease separator *EasyClean* free Mix & Pump NS 7 with *SonicControl*



Source: Shutterstock

Project requirements

A drainage solution is required for the preparation of more than 1,200 meals per day during sessions.

The complex structure of the building must be taken into account for the installation.

Grease layer thickness must be known at all times.

KESSEL solutions

The grease separators from KESSEL offer a large collection volume and are therefore well equipped for such high flow operations.

Easy installation of the *EasyClean* grease separator is achieved through the curved separator body.

SonicControl level sensing system allows grease layer measurement any time.



SonicControl



Grease separator *EasyClean* free Mix & Pump

Mall of the Netherlands

The largest shopping centre in the Netherlands.



City, country

Leidschendam, Netherlands

Date of completion

2017 and 2020

Type(s) of building

Commercial building, gastronomy

Product(s)

2x Grease separator *EasyClean* ground Auto Mix & Pump
NS 25

Project requirements

Straight forward operation

Underground separator body to be installed in high groundwater area

No odor nuisance during disposal

KESSEL solutions

The comfort control unit with digital display ensures simple operation

The groundwater resistance of the KESSEL grease separator is guaranteed by a twin walled re-enforced separator body

Fully automatic grease separator disposal with program-controlled shredder mix system for odorless disposal



Grease separator *EasyClean* ground
Auto Mix & Pump

Altair

Avant-grade design on the outside. Tried-and-trusted technology on the inside.

City, country

Colombo, Sri Lanka

Date of completion

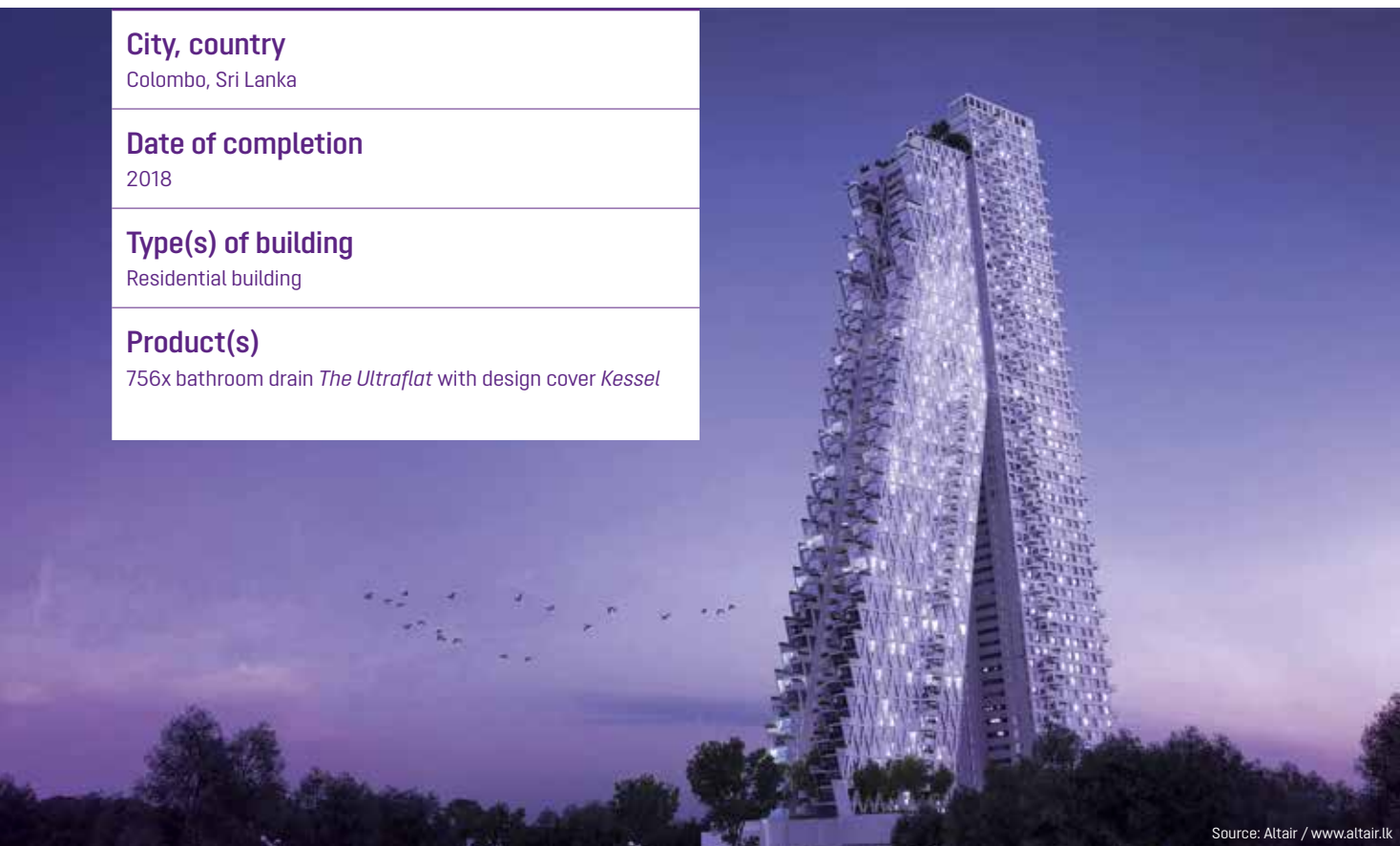
2018

Type(s) of building

Residential building

Product(s)

756x bathroom drain *The Ultraflat* with design cover *Kessel*



Source: Altair / www.altair.lk

Project requirements

Minimum installation depth.

High quality demands by the contractor.

Matching the most modern building in Sri Lanka.

KESSEL solutions

The Ultraflat is the flattest drain on the market.

It guarantees top quality and drainage capacity.

Best technology and perfect aesthetics thanks to the design cover.



Bathroom drain *The Ultraflat*



Upper section *Kessel*

Frankfurt Airport

Planes in the air, KESSEL separators on the ground.



Source: Airport Frankfurt

City, country

Frankfurt, Germany

Date of completion

2016

Type(s) of building

Transport, gastronomy, public building

Product(s)

Grease separator *EasyClean* free Auto Mix & Pump NS 7 with biological post-treatment *BIFENA*® BF 3, coarse particle trap and sampling device

Project requirements

Wastewater values of under 100 mg/l of lipophilic compounds must be met.

The new system must be installed during airport operation. Shut down is not permitted.

KESSEL solutions

Permanent, reliable compliance with the high demands made on wastewater values with minimum effort during operation.

Maximum flexibility with a customised design and on-site welding / assembly by a specialized KESSEL team.



Coarse particle trap



Grease separator *EasyClean* free Auto Mix & Pump



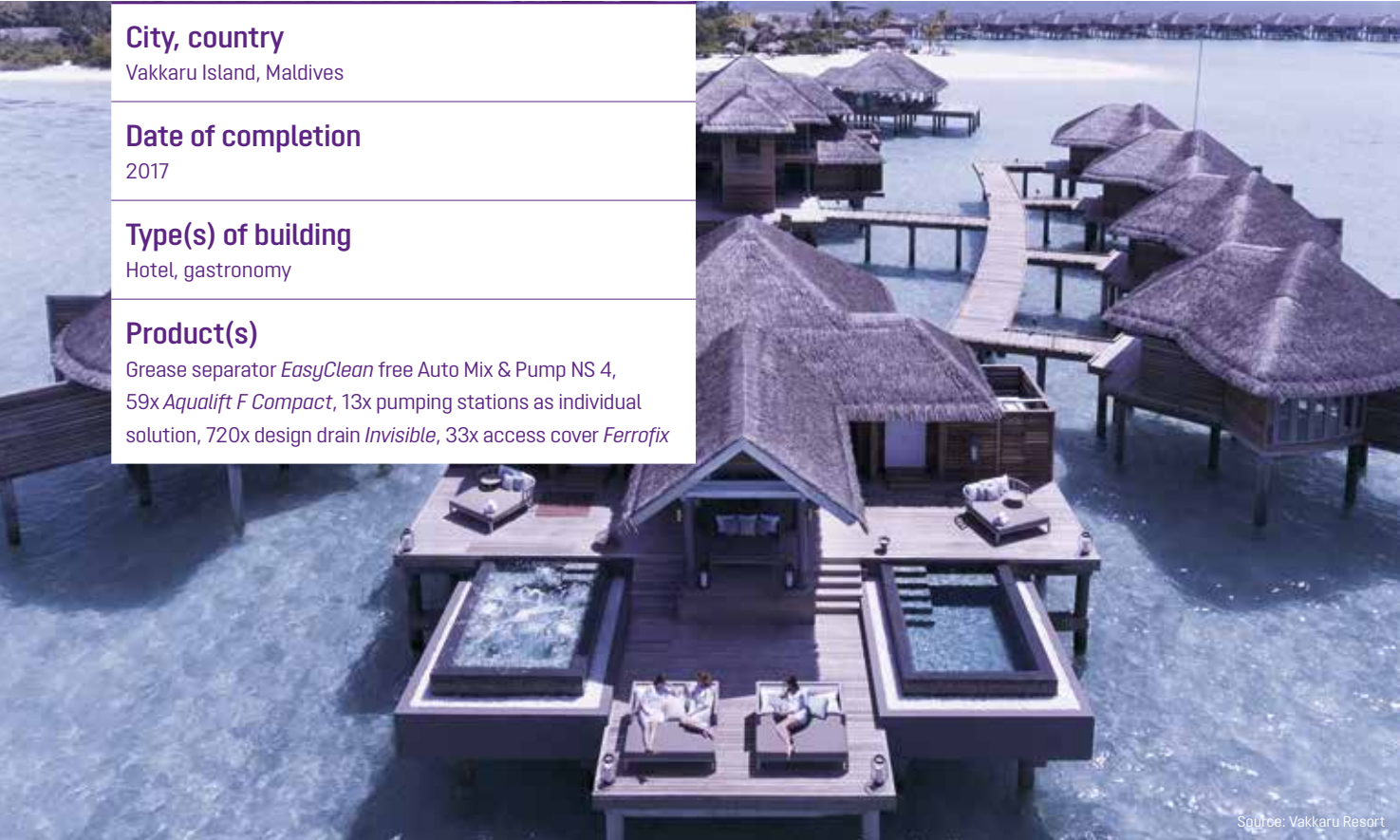
Secondary grease treatment *BIFENA*®



Sampling chamber

Vakkaru Resort

Holiday of a lifetime on the water.
Behind-the-scene drainage solution from KESSEL.



Project requirements

- Wastewater from each villa needs to be pumped back to the island without disturbing the guests.
- On-site support and commissioning required.
- Bathroom drain covers to match tiling.

KESSEL solutions

- The KESSEL *Aqualift F Compact* is hidden below villas and provides low noise operation.
- KESSEL technical expert on-site provides hand-on support.
- The KESSEL *Invisible* drain covers.



Design drain *Invisible*



Lifting station
Aqualift F Compact



Grease separator *EasyClean* free
Auto Mix & Pump

Zeleni Venac Parking Garage

The best place to park and start exploring Belgrade.



Source: Shutterstock

City, country

Belgrade, Serbia

Date of completion

2017

Type(s) of building

Transport, commercial building, public building

Product(s)

133x parking deck drains *Ecoguss*, 12x flat-roof drains in *Ecoguss* System 200 with pressure sealing flange

Project requirements

Strict fire and sound insulation requirements

Long lasting, heavy duty drain covers

Reliable discharge of the wastewater produced

KESSEL solutions

Guaranteed to comply with all (fire protection) regulations

High resistance, even with aggressive wastewater

Very high flow rate of 4.5 l/s



Flat-roof drains in *Ecoguss* System 200 with pressure sealing flange



Parking deck drain *Ecoguss*

Porto Montenegro

The leading luxury marina of the Mediterranean – equipped with leading drainage technology.

City, country

Tivat Montenegro, Montenegro

Date of completion

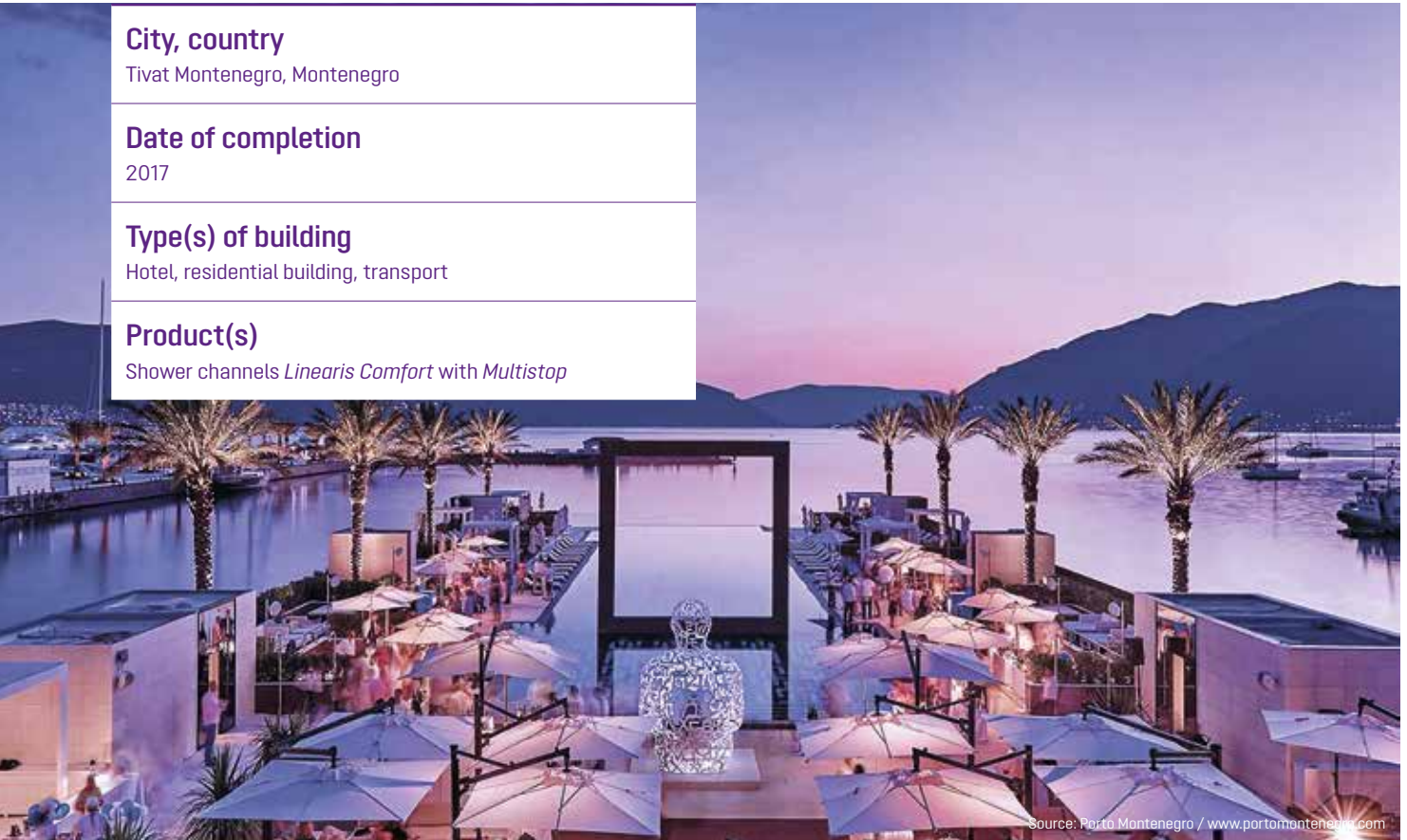
2017

Type(s) of building

Hotel, residential building, transport

Product(s)

Shower channels *Linearis Comfort* with *Multistop*



Source: Porto Montenegro / www.portomontenegro.com

Project requirements

Elegant design matching the standard of the apartment complex.

Shower channels with high discharge rate necessary.

Drainage system must prevent against unpleasant odours from the sewer.

KESSEL solutions

Shower channel in a traditional stainless steel design – in addition the rim of the *Linearis Comfort* can be tiled individually.

The *Linearis Comfort* offers up to 1.1 lit / sec flow rate.

Multistop blocks odours, foam, rodents and insects.



Shower channel *Linearis Comfort*



Multistop

Jewel of the Creek

The building complex of superlatives.



City, country

Dubai, United Arab Emirates

Date of completion

2019

Type(s) of building

Hotel, gastronomy, commercial building, residential building

Product(s)

12x Grease separator *EasyClean* free Auto Mix & Pump (NS 4, NS 7, NS 10) with 12x lifting station *Aqualift F XL*

Project requirements

Easy monitoring of the pumps should be ensured at all times.

Odorless disposal of grease separator contents.

KESSEL solutions

Monitoring the pump and battery backup is no problem with the KESSEL self-diagnostic system SDS.

The direct disposal by the Shredder-Mix-System, which is used to homogenize the contents of the separator, enables an odorless disposal and easy cleaning.



Lifting station *Aqualift F XL*



Grease separator *EasyClean* free Auto Mix & Pump

Google

The largest Google campus in India

City, country	Hyderabad, India
Date of completion	2017
Type(s) of building	Commercial building
Product(s)	Grease separator <i>EasyClean</i> free Mix NS 15



Project requirements

- The grease separator has to be customised to fit in the basement.
- A flow rate of 12 - 13 l/s has to be met.
- The products must be built from corrosion free material.

KESSEL solutions

- KESSEL offers a wide range of individual solutions. The grease separator tank was adapted to perfectly fit into the room.
- All EasyClean separators are made of polymer, making them durable and renovation-free.



Individual solution of grease separator *EasyClean* free made for customer

Hotel InterContinental Davos

Designed in a timeless fashion – with drainage channels to match



Source: Weriwald AG

City, country

Davos village, Switzerland

Date of completion

2013

Type(s) of building

Hotel

Product(s)

8x shower channel *Linearis Super60* with *Multistop*

Project requirements

Drains should offer a classic and timeless design.

No unpleasant odours from the drainage system.

Hygiene standards should be guaranteed by simple cleaning of the shower channel.

KESSEL solutions

The shower channel *Linearis Super60* offers a tileable reversible drain cover offering a stainless steel or tiled 'invisible' look.

The odour stop *Multistop* fulfils the necessary requirements.

Tool-less access makes cleaning quick and easy.



Multistop



Shower channel *Linearis Super60*

Doha Oasis

Qatar's mixed - used wonder

City, country

Doha, Qatar

Date of completion

2019

Type(s) of building

Commercial building

Product(s)

112x Walldrain *Scada*



Source: Redco Construction / www.redcoalmana.com

Project requirements

Drains with a unique design.

KESSEL solutions

Walldrain Scada can not only be used in the bathroom – with correct installation it can also be used as a balcony drain.

The design award winning walldrain Scada is available with LED colored backlighting included the popular 'rainbow' setting with automated color change.



Walldrain *Scada*

Ministry of Foreign and European Affairs

Slovakia relies on drainage solutions from KESSEL.



City, country

Bratislava, Slovakia

Date of completion

2019

Type(s) of building

Public building

Product(s)

Hybrid lifting station *Ecolift XL*

Project requirements

Drainage solution for installation with a gradient to the sewer

Fail-safe disposal of the wastewater produced

Reliable protection against backwater

KESSEL solutions

Combines the safety of lifting systems with the advantages of backwater valves

Disposal of wastewater during normal operation without electricity

Offers an innovative chamber system for a wide range of installation heights



Hybrid lifting station *Ecolift XL*

Clinic Dr. Obad

State-of-the-art technology for patients –behind the scenes technology for the engineers.

City, country

Split, Croatia

Date of completion

2017

Type(s) of building

Health sector, public building

Product(s)

Lifting station *Aqualift F XL Duo*



Source: Shutterstock

Project requirements

The clinic requires a twin pumping station for additional safety.

A large amount of wastewater has to be dealt with, making a large pumping volume necessary.

KESSEL solutions

KESSEL lifting stations *Aqualift F* are offered with a secondary back up pump.

The SmartSelect pump selection program chooses the exact pump size and chamber volume to assure that the lifting station is suited for on-site demands.



Lifting station *Aqualift F XL Duo*

Syrovarnya & Caspar Restaurant Baku

A new era of dining.



Source: en.novikovgroup.ru

City, country

Baku, Azerbaijan

Date of completion

2019

Type(s) of building

Gastronomy

Product(s)

1x Grease separator *EasyClean* free Mix & Pump,
1x Grease separator *EasyClean* ground Standard,
6x Grease separator *Under Sink*,
2x Pumping station *Aqualift F XL*,
3x Backwater pumping station *Pumpfix F*

Project requirements

Suitable grease separators for different areas

Reliable disposal of large quantities of wastewater

Reliable backwater protection

KESSEL solutions

Coordinated overall system consisting of separator, lifting station and accessories

Comprehensive services from planning to operation of the plant

Adaptation and expansion of the separator system is possible at any time



Grease separator *EasyClean* free



Grease separator *Under Sink*



Pumping station *Aqualift F XL*



Backwater pumping station *Pumpfix F*

Therme Bucuresti

Provide drainage for the largest spa in europe? No problem with KESSEL.

City, country

Balotesti near Bucharest, Romania

Date of completion

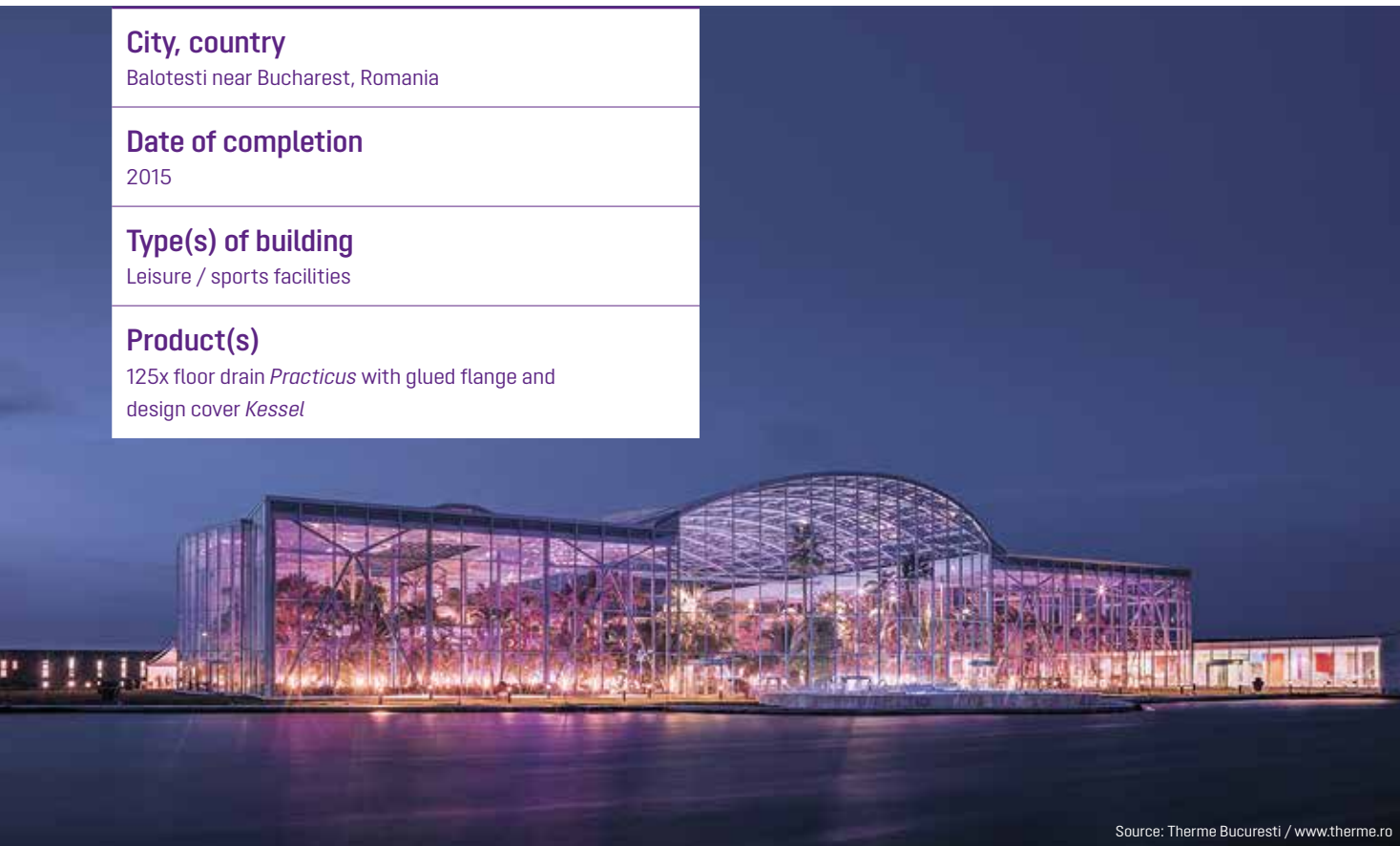
2015

Type(s) of building

Leisure / sports facilities

Product(s)

125x floor drain *Practicus* with glued flange and design cover *Kessel*



Source: Therme Bucuresti / www.therme.ro

Project requirements

Attractive design for the drain covers.

High-performance and durable drainage solution.

Drain covers must be lockable.

KESSEL solutions

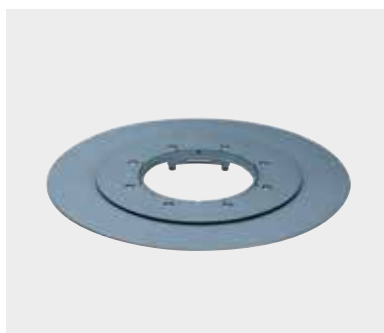
KESSEL offers a large selection of aesthetic design covers.

The high-quality drain bodies stand out through a high discharge rate and are equipped with an odour trap in accordance with EN 1253-1.

KESSEL award winning *Lock & Lift* system offers one step unlocking and removal.



design cover *Kessel*



Glued flange



Floor drain *Practicus*

Airport Istanbul

An important hub between Asia, Europe and the Middle East.



City, country

Istanbul, Turkey

Date of completion

2020

Type(s) of building

Transport, Public building, Gastronomy

Product(s)

35x Grease separator EasyClean Mix & Pump,
17x Oil-/coalescence separator EasyOil ground,
5x Lifting station Aqualift F XL,
200x Backwater valve Stauffix

Project requirements

Ensuring odourless disposal

Sustainable wastewater treatment for light liquids in the aviation maintenance areas

Reliable backflow protection for the new airport building

KESSEL solutions

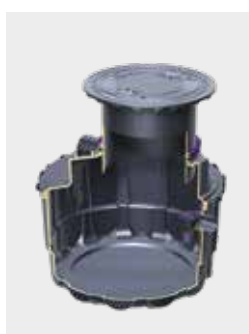
Odourless emptying and cleaning process in a closed system

Comprehensive services from planning to operation of the plant

Mechanical flaps of the backwater valves prevent rodents from entering the pipe system of the buildings



Grease separator *EasyClean free*



Oil-/Fuel separator *EasyOil ground*



Lifting station *Aqualift F XL*



Backwater valve *Stauffix Basic*

Lindebjergskolen Hammerum

Climate school in Denmark relies on economic solutions from the market leader.

City, country

Herning, Denmark

Date of completion

2018

Type(s) of building

Science / education / culture

Product(s)

Hybrid lifting station *Ecolift XL* in the engineering chamber
LW 1000



Source: Shutterstock

Project requirements

Easy access with sufficient space for inspection and maintenance.

High reliability and low operating costs.

KESSEL solutions

Large diameter chamber with easy access opening provides safe and comfortable working conditions while servicing the system.

The *Ecolift XL* is an economical alternative to traditional lifting stations. Installation, energy usage and wear and tear are kept to a minimum. The SDS (self-diagnosis system) offers high product reliability.



Mesheireb Downtown Doha

Transforming the center of the capital city.



Source: Msheireb Properties / www.msheireb.com

City, country

Doha, Qatar

Date of completion

2018 - 2020

Type(s) of building

Commercial building, residential building

Product(s)

Complete range of *EasyClean* free Auto Mix & Pump fully automated grease separators (4x NS 15, 2x NS 7, 4x NS 2), 10x lifting stations *Aqualift F Duo*

Project requirements

Custom made grease holding tanks.

7.5 kW grease disposal pumps.

KESSEL solutions

Flexibility in design and execution of custom made grease holding tanks.

Custom grease separator pumps to handle lengthy disposal pump run.



Lifting station *Aqualift F Duo*



Grease separator *EasyClean* free Auto Mix & Pump

Kempinski Hotel Muscat

Guaranteed amazing memories

City, country

Muscat, Oman

Date of completion:

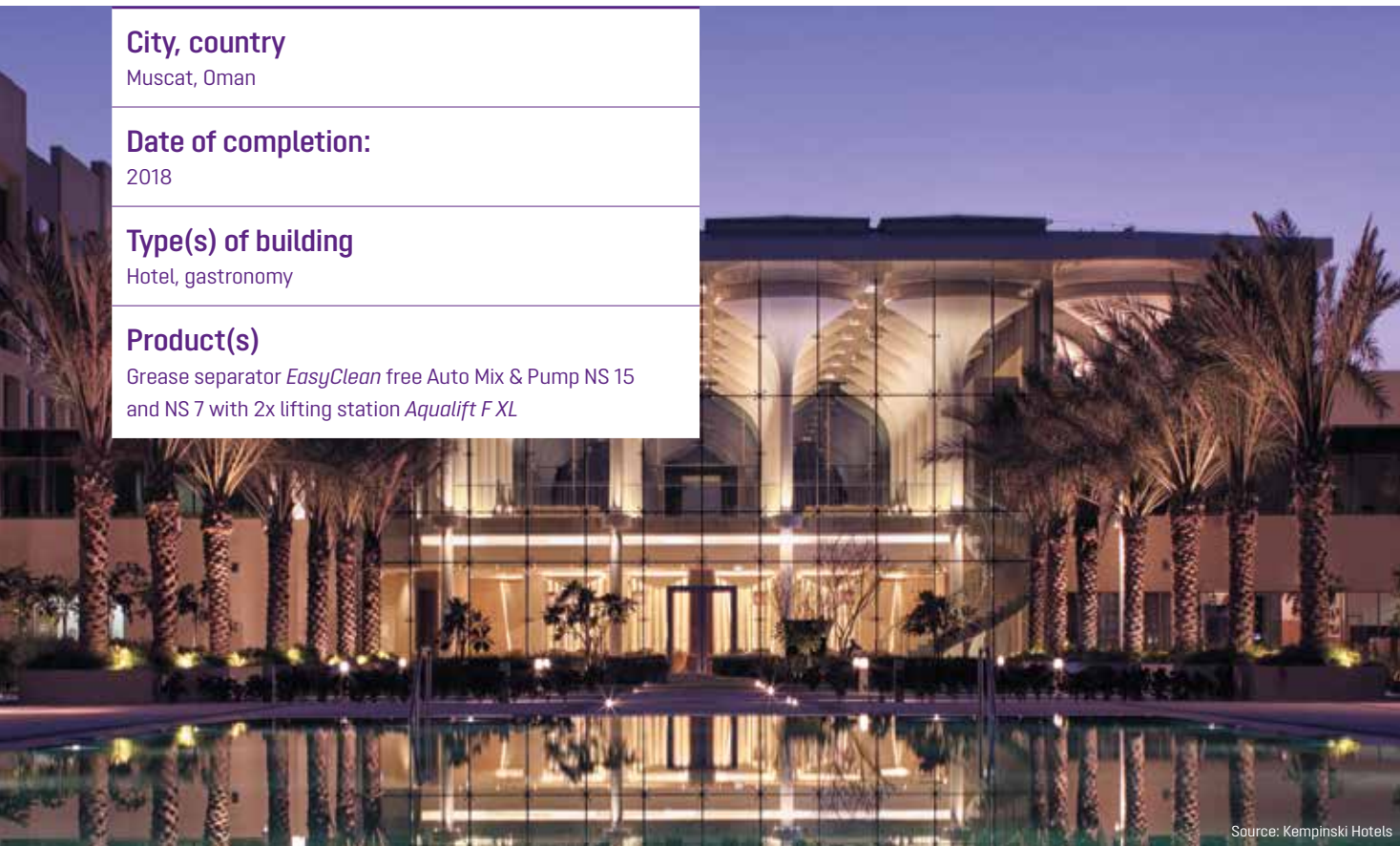
2018

Type(s) of building

Hotel, gastronomy

Product(s)

Grease separator *EasyClean* free Auto Mix & Pump NS 15 and NS 7 with 2x lifting station *Aqualift F XL*



Source: Kempinski Hotels

Project requirements

Customer looking for a complete grease separator and lifting station system solution from a single source.

Flexibility in execution is necessary.

KESSEL solutions

KESSEL offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories.

The lifting stations and the grease separators offer large storage capacities but still are ideal for rooms with a very narrow access.



Lifting station *Aqualift F XL*



Grease separator *EasyClean* free Auto Mix & Pump NS 15

More references	City, country, year	Type(s) of building	Product(s)
Hotel nhow Berlin	Berlin, Germany, 2009	Hotel, gastronomy	288x roof drain <i>Ecoguss</i> with <i>Variofix</i> -shallow bed upper section <i>Oval</i> , Fire protection insert <i>Fire-Kit</i> , Passage seal <i>Quick-Fit</i> , Grease separator <i>EasyClean</i> free Auto Mix & Pump NS 10
Deutsches Theater	Munich, Germany, 2012	Science / education / culture	3x grease separator <i>EasyClean</i> free Auto Mix and Pump NS 10 and NS 7 with <i>SonicControl</i> and sampling device, 2x lifting station <i>Aqualift F Duo</i>
Volkswagen Wind Tunnel Efficiency Centre	Wolfsburg, Germany, 2015	Commercial building, industry	Coalescence separator <i>EasyOil</i> ground NS 10 with <i>SonicControl</i> and sampling device
Le Royal Monceau	Paris, France, 2017	Hotel, gastronomy	110x Floordrain <i>Practicus</i> with drain cover <i>Invisible</i>
Kempinski Hotel Ishtar Dead Sea	Swaimeh, Jordan, 2018	Hotel	25x shower channel <i>Linearis Comfort</i>
Marina Kaštela	Split, Croatia, 2016	Commercial building	10x shower channel <i>Linearis Compact</i>
Dubrovnik Airport	Dubrovnik, Croatia, 2014	Transport, public building, gastronomy	Grease separator <i>EasyClean</i> free Auto Mix & Pump NS 2 and NS 4
Hilton Hotel Belgrade	Belgrade, Serbia, 2018	Hotel, Gastronomy	Shower channels <i>Linearis Compact</i> , Grease separator <i>EasyClean</i> free Auto Mix & Pump NS 10
Salwa Resort	Doha, Qatar, 2019	Hotel, leisure / sports facilities, commercial building	200x Parking deck drains <i>Ecoguss</i> , 380x shower channel <i>Linearis Compact</i>
Horizon Residence and Office Towers	Maputo, Mozambique, 2015	Commercial building, residential building	280x floor drain <i>Practicus</i> with glued flange and design cover <i>Kessel</i> , 280x shower channel <i>Linearis Compact</i> with <i>Multistop</i> and hair filter
Postillion Hotel	Amsterdam, Netherlands, 2018	Hotel	254x shower channel <i>Linearis Compact</i>
Children's hospital Victor Gomoiu	Bucharest, Romania, 2014	Health sector, public building	6x lifting station <i>Aqualift F Compact Duo/Mono</i> , 2x lifting station <i>Aqualift F Duo/Mono</i> , 1x lifting station <i>Aqualift S Tronic</i> , 3x lifting station <i>Minilift</i> , 3x submersible pump KTP 500
Linnégallerian Växjö	Växjö, Sweden, 2009	Commercial building, public building	Grease separator <i>EasyClean</i> free Auto Mix & Pump NS 25, lifting station <i>Aqualift F XL Duo</i> gate valve made from cast iron and sampling device
Hörnlihütte	Arosa, Switzerland, 2016	Hotel, gastronomy	Customised grease separator <i>EasyClean</i> NS 15
Amazon	Hyderabad, India, 2019	Commercial building, industry	6x Grease separator <i>EasyClean</i> free Mix & Pump NS 10
Shopping Mall illa Carlemany	Escaldes-Engordany, Andorra, 2018	Gastronomy, commercial building, public building	Grease separator <i>EasyClean</i> free Auto Mix & Pump with <i>SonicControl</i> and <i>TeleControl</i>
Mersin City Hospital	Mersin, Turkey, 2018	Hospital, public building	7x Grease separator <i>EasyClean</i> free with level sensing system <i>SonicControl</i> , 17x coalescence separator <i>EasyOil</i> with level sensing system <i>SonicControl</i> , 4x lifting station <i>Aqualift F XL</i>
Skyland Istanbul	Istanbul, Turkey, 2018	Commercial building, public building, residential building	8x Grease separator <i>EasyClean</i> free Mix & Pump with grease layer measuring device <i>SonicControl</i> , 2x coalescence separator <i>EasyOil</i> , 2x shower channel <i>Linearis Compact</i>

For more
references visit
www.kessel.com/references



Belgrade Waterfront

Restaurant wastewater handled by largest single tank grease separator in the world.

Right on the waterfront in the city: Belgrade Waterfront became a modern district with apartments, hotels and restaurants on the banks of the Sava River. (Source: Belgrade Waterfront)

City, country

Belgrad, Serbia

Date of completion

2020

Type(s) of building

Gastronomy, public building, commercial building, residential building, hotel

Product(s)

10x Grease separator EasyClean free Auto Mix & Pump (1x NS 50, 3x NS 40, 3x NS 20, 1x NS 15, 2x NS 10) with 16x lifting station Aqualift F XL (13x 450l, 3x 900l)



The Serbian district Belgrade Waterfront relies on KESSEL drainage solutions that are "made in Germany"

The new urban centre Belgrade Waterfront is located right in the heart of the Serbian capital, covering an area of one million square metres. This unique district, which stretches along the picturesque banks of the Sava River, already gives an impression of the future of modern living. Here, the focus is on creating a pleasant, functional and elegant space to live and work with numerous leisure activities, such as shopping centres or restaurants. More than 50 different speciality restaurants and an extra large food court are the source of a significant quantity of wastewater containing grease, oil and food waste. In order to handle these large volumes of wastewater – a total of 235 litres per second, the demands made on the grease separator system were incredibly high. A total of ten KESSEL *EasyClean* free Auto Mix & Pump grease separators in different sizes and downstream *Aqualift F XL* lifting stations were installed together with the largest grease separator system in the world with a nominal size of 50 (max. 50 l/s) to provide a powerful and safe solution.

Better quality of life and work in a neighbourhood close to the river in the centre of Belgrade

Back in 2014, the Serbian Government and Eagle Hills, one of the leading private investment and development companies, initiated this project to create a new city centre in the rising European capital. Belgrade Waterfront follows the idea that the urban areas of Belgrade are closer to the rivers. The residents living in this district enjoy life on the banks of the river while at the same time being close to the city centre. Various restaurants and streets lined with eateries, which invite people to while away the time, provide the necessary food for the locals and tourists. If the greasy wastewater that they produce is discharged untreated into the public sewer system, grease and food residues are deposited in the drainage pipes. This can lead to considerable damage and the build-up of corrosion and odours as well as blockages. As Belgrade Waterfront is full of restaurants, the challenge was to find a large-capacity grease separator system that can reliably handle these volumes.

Exceptional custom-made products for high volumes of wastewater

The responsible parties had already envisioned an initial device solution for the project. KESSEL AG specialises in individual custom-made solutions and offered a special alternative to the original proposal – with success. Together with their Serbian trading partner Hydrosol, the drainage specialist convinced the responsible planner, the construction company, the project manager as well as ultimately the supervisory authorities and the investor Eagle Hills of the performance of large, decentralised grease separator systems with a software-controlled, fully automated disposal and rinsing system. These also save space and costs and protect the environment. In total, the company supplied ten *EasyClean* free Auto Mix & Pump grease separators. The respective dimensioning was based on the predefined inflows. The restaurants were grouped together for this purpose. In order to cope with these enormous volumes of greasy wastewater, the company not only created the largest grease separators in the history of KESSEL for the project, but also the largest grease separator in the world to date, with a nominal size of 50.

A challenging initial situation resolved to the satisfaction of all parties involved

The “Individual Solutions” department at KESSEL had to overcome various challenges during the project: it had to find technical solutions for grease separators with a sufficiently large capacity. KESSEL impressed here, for example, with grease separator systems in nominal sizes of 40 and 50 a single tank systems. Since the respective set-up locations of the separators are located below the backwater level, the wastewater cannot flow into the sewage system via gravity. For this reason, additional downstream *Aqualift F XL* lifting stations are used, whose performance had to be precisely adapted to the water volumes involved. In cooperation with Hydrosol, it was also necessary to optimise the positioning of the devices according to the groups of restaurants and to provide

high-quality pipes, connections and efficient ventilation of the system. “I am particularly proud of the way in which this project progressed. Throughout the entire project, we implemented every change in installation planning with regard to design and costs within a few days. This meant that our partner Hydrosol from Belgrade was kept up to speed with the latest project status and could provide information at every project meeting”, explains Martin Jais, a member of the Export Product Management team at KESSEL. “It was precisely this shared product and market competence that was the key to the successful implementation of the project.” Each solution offered was explained logically and in detail, including the tested product properties and certification. Ultimately, all participants benefitted from this: the planners were given a system solution that meets all the requirements. As KESSEL supplied automated grease separators with a high capacity in one system, this simplified the installation procedure for the building contractor – and the investors can rely on the fact that the wastewater produced is properly treated and reliably discharged in an environmentally friendly manner.

No odour emissions thanks to a program-controlled disposal and rinsing system

The grease separators, which are designed to meet the specific requirements, have a program-controlled, fully automated disposal and rinsing system known as the “Shredder-Mix-System”. The contaminated wastewater from the restaurants and food courts is routed into the system where it is slowed down by a deflector plate. In slow-flow tanks, substances that are heavier than water sink to the bottom and settle in the sludge trap. Grease and oil rise to the top and form a grease layer that is retained between the inlet and outlet. The grease and sludge layer is disposed of with a closed tank through the direct disposal pipes permanently installed on site using the system’s own pumps. The “Shredder-Mix-System” enables the circulation



Surpassing themselves for success: the company not only created the largest grease separators in the history of KESSEL during the project, but also the largest grease separator in the world with a nominal size of 50 (max. 50l/s). (Source: KESSEL AG)

and comminution of the contents of the tank and provides for odourless cleaning of the separators. For future maintenance, the software control enables fine-tuning for each step of the cleaning and maintenance process. In addition, the *SonicControl* automatic grease layer thickness measuring device with an ultrasound sensor independently takes over the precise monitoring of the temperature and layer thickness in the grease separators. The owner-operator can therefore verify the actual quantity of grease that they produce to the relevant authorities and optimise the necessary disposal cycles outside of the standard requirements.

High-performance pumps for reliable drainage at all times

The treated effluent of all grease separators was located below the backwater level, meaning lifting stations were needed to pump this wastewater into the local sewer system - for this the *Aqualift F XL* twin lifting stations (models 3000, 4500 and 5500) were chosen. These systems were also dimensioned according to the calculated inflow and the pressure pipes were designed accordingly. In order to be able to reliably derive the variable inflow rates, some lifting stations are equipped with two or three pumps running in parallel, which can all be controlled centrally together. This mode of operation increases safety and saves the owner-operator additional costs. The pumps were installed in either one or two 450-litre tanks connected to each other. "With this technical custom-made solution, the large volumes of wastewater generated at the Belgrade Waterfront can be safely disposed of through the pressure pipe", stresses Martin Jais. The commissioning and software settings will be carried out on the system by the specialists at KESSEL in summer 2020.



The respective dimensioning of the grease separators was based on the predefined inflows. The restaurants were grouped together for this purpose. (Source: KESSEL AG)



for further information
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Subject to technical modifications.

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