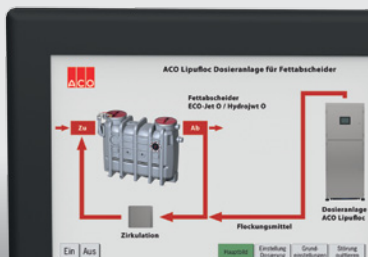


Wastewater treatment
that goes further

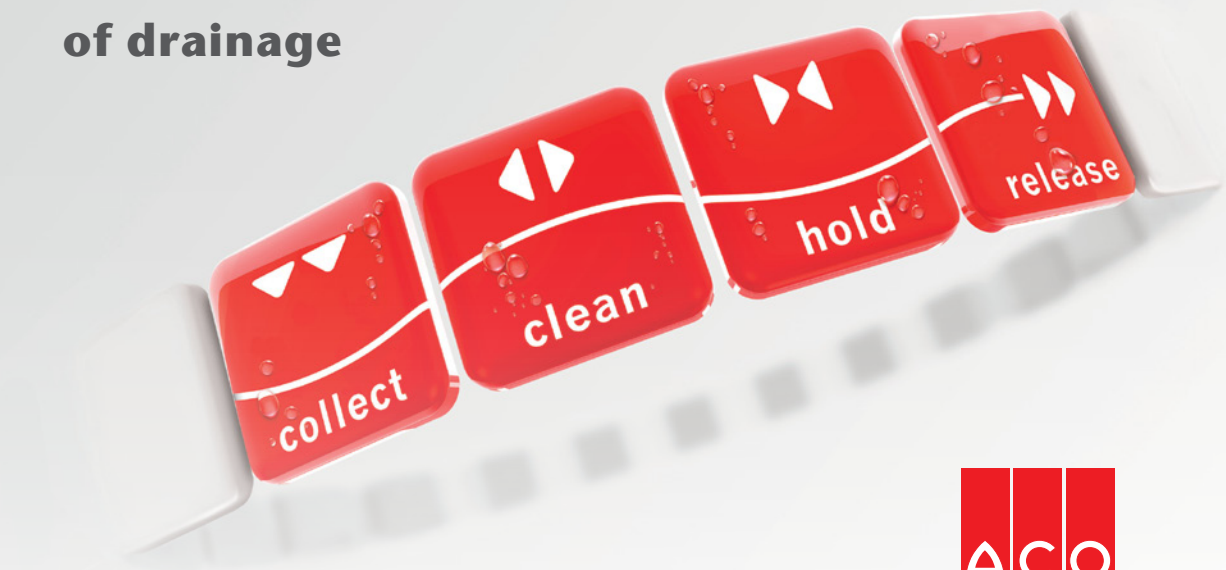


Chemical-physical treatment of water containing high levels of grease

ACO Lipufloc dosing station for grease separators



ACO. The future of drainage



The ACO system chain provides the drainage solutions for tomorrow's environmental conditions.

The ACO system chain provides the drainage solutions for tomorrow's environmental conditions. Increasingly extreme weather must be counteracted by more complex and sophisticated drainage concepts. ACO achieves this with intelligent system solutions which have a dual purpose: protecting people from water, and water from people. Every ACO product within the ACO system chain therefore safely controls the water as it passes along the chain to ensure that it can be ecologically and economically reused in a viable way.

2
III



collect:

- Ground drainage
- Bathroom drainage
- Roof drainage
- Multi-storey parking deck drainage
- Balcony and terrace drainage
- Pipe systems



clean:

- Grease separators
- Starch separators
- Light oils separators
- Process technology



hold:

- Backflow systems



release:

- Lifting plants
- Pumping stations



The ACO System chain in action



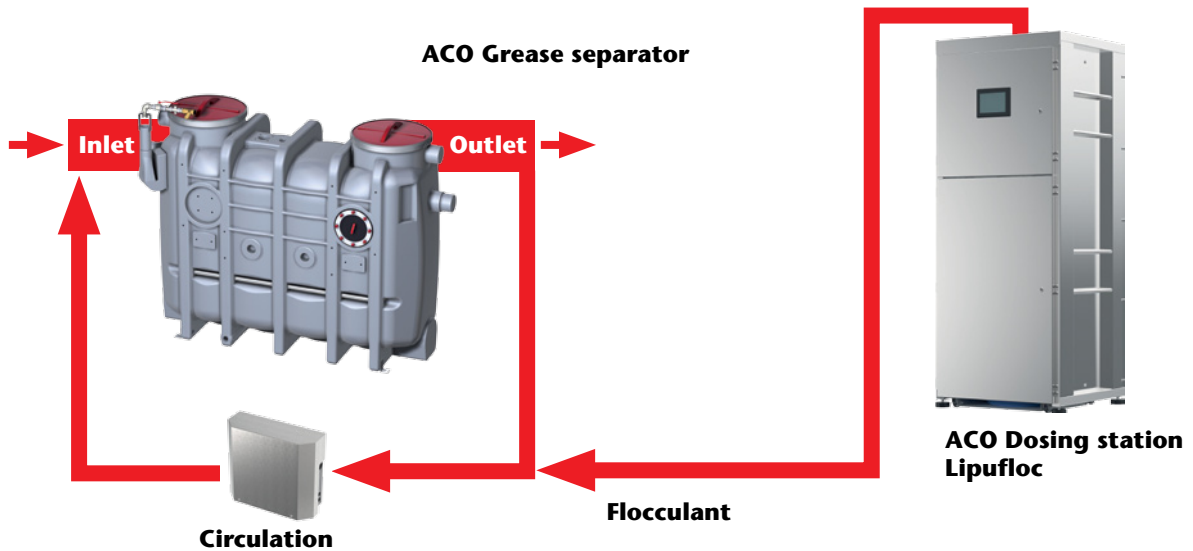
Every product from ACO Building Drainage integrates into the ACO system chain

ACO Lipufloc dosing station for grease separators

The high level of organic pollution by oils and fats in wastewater from kitchens requires the installation of a grease separator plant. In the separators, the wastewater is treated solely by gravity, which means only freely separable oils, fats and sediments are retained. Emulsified and dissolved components will pass through the separator virtually unimpeded. This can mean exceeding the maximum permitted levels where increasingly stringent requirements on the levels of non-volatile lipophilic substances apply. As this parameter is high on the agenda of the authorities in many cities (e.g. Frankfurt), the focus is increasingly on adding purification processes which go further, downstream of the grease separators.

The ACO Lipufloc dosing station allows you to stay permanently below the maximum threshold for non-volatile lipophilic substances, and also to significantly reduce the COD and BOD parameters. This chemical-physical wastewater processing plant is suitable for treating restaurant wastewater with high concentrations of fats. It is very compact, which means that it can easily be installed even in tight spaces.

Construction and functional principles with ACO grease separator con-



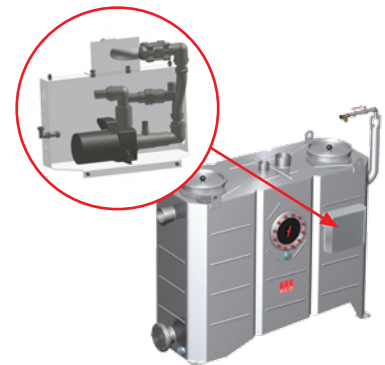
System technology for clean wastewater

The dosing station consists of two physically separate components. On the one hand, a stainless steel casing for the dosing mechanism and the supply of the chemical substance, on the other hand a unit which is mounted directly adjacent to the upstream grease separator.

The stainless steel casing contains the dosing pump with a suction nozzle, controls and fusebox, level and quantity measurements of the supply of the chemical substance, as well as an operation and control centre (colour touch screen) in the front door. The built-in dosing pump transfers the chemical substance towards the grease separator for use, based on time and volume parameters. This is extracted from the plastic barrel

using a suction nozzle with measurement of the level. The chemical substance is held in a barrel which stands on a dolly and is pushed into the housing, making it easy to replace. The level and quantity in the container is monitored continuously. The controls are the central element. All the information about fill levels and operating conditions come together here. The first element described above provides the energy and controls to operate the second element. This is primarily a wastewater pump which takes the pre-treated kitchen wastewater from the grease separator's outlet and, after the chemical substance has been added, pumps it back into the grease separator's inlet. These parts are normally fitted directly to the grease separator itself.

But there is also an option to fix to the wall if space conditions require it.



How the chemical substance works

The chemical substance used is a polymer-based flocculant with added aluminium components. The flocculant is added in small quantities to the flow of wastewater and both ingredients are then thoroughly homogenised. This breaks up any stable emulsions, and any particulate components are bound into clumps and these then end up in the grease or sludge collection areas.

Product benefits

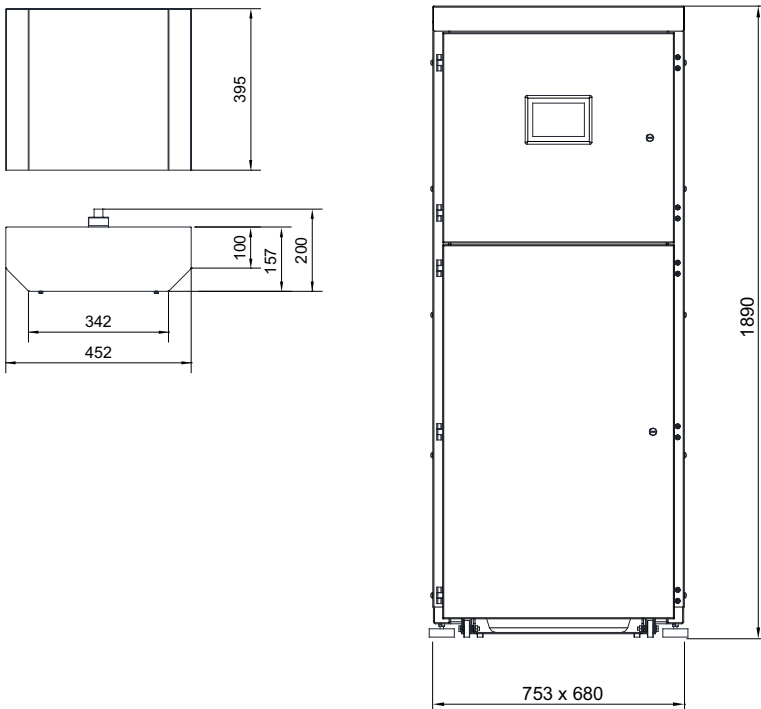
- Compact space-saving shape
- Ready to connect, rapid to install
- Low cost of maintenance
- Rapid top up of active agent (flocculant)
- Suitable for wastewater that contains grease, ACO grease separator up to NS 25
- Functions fully automatically with effective adjustment to kitchen's pattern of working

Product Description

- Chemical-physical wastewater treatment to reduce concentrations of fats and oils in ACO grease separator outlets
- Energy-saving and user-friendly automatic operation to treat wastewater from restaurant kitchens
- For indoors installation - frost free
- Contained in a stainless steel cabinet
 - Lockable door for storage of flocculant
 - Adjustable height feet with rubber pads
 - 230 V/50 – 60 Hz plug (on rear wall easy access to be used on-site)

- Dosing pump
 - Nominal pressure 3 bar (long-term operation)
 - Max. volume throughput 2 l/hr
 - Power consumption 15 W
- Circulation pump
 - Max. volume throughput 80 l/hr
 - Max. height raised 2.1 m
 - Power consumption 45 W
 - IP 68 protection
- Controls
 - Local power supply 230 V/50 – 60 Hz/2 A
 - IP 54 protection
 - Mains-free group fault and operational messages
- Flocculant - 125 kg
- Touch panel
 - 7" colour touch panel
 - Process display
 - Controls and setting parameters

Dimensions

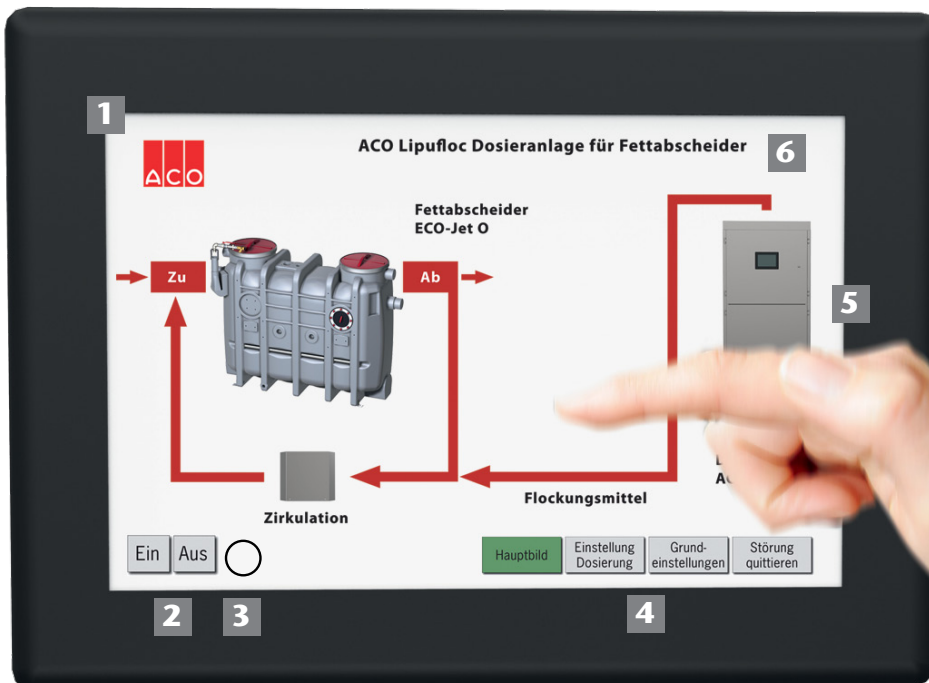


Central Control Unit via Touch Panel

All settings are entered using a central control unit with a touch panel attached. This provides information at all times about the current operational status. In addition, all processes can easily be edited using the 7 inch touch sensitive display.

This also offers the option to visualise the system configuration and current operational status. By using the control

and display unit you can also flexibly programme the dosage pattern to match the kitchen's activities. The control unit also offers error reporting functionality. This helps to identify problems rapidly and correctly.



1. Main window of the touch panel
2. Control field "On" and "Off" to start or stop the system
3. Display field for system operation
4. Main control fields for the dosing station: Adjusting the "dose", different "Basic settings" as well as "Clear error" and return to main window
5. Graphical and digital fill level display for the flocculant container
6. Display fields for temporary text and system information e.g. "Error messages"

Reference sites using the ACO Lipufloc system



13 ACO Lipufloc and ACO Grease separator as a standard installation at the Berlin Brandenburg International (BBI) airport

Photo: gmp Architekten, JSK International, Björn Rolle, Flughafen Berlin-Brandenburg



ACO Lipufloc in combination with an ACO HL-Biologie biological wastewater treatment plant to treat 40 m³ of restaurant kitchen wastewater from three restaurants at the Steigenberger Frankfurter Hof hotel

Photo: Steigenberger Hotels AG



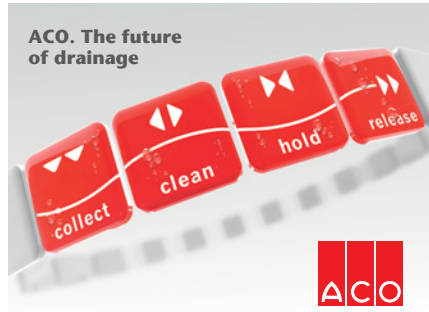
ACO Lipufloc in a special version at the DER central Deutsches Reisebüro (travel agency), Frankfurt am Main

Photo: DER



Video ACO Lipufloc

<http://aco.me/lipufloc>



Every product from ACO Building Drainage contributes to the ACO system chain

collect

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- Pool drainage
- Roof drainage
- Multi-storey parking deck drainage
- Balcony and terrace drainage
- Pipe systems

clean

- Grease separators
- Starch separators
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- Process technology

hold

- Backflow systems

release

- Lifting plants
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