BENE DEMULGON
Physical adsorption and demulsification plant

Technical Product Sheet

BENE Separa

In order to fulfil official conditions the sewage producer has to use a wide range of purification processes.
In such cases the petrol- and coalescence separator are not sufficient.

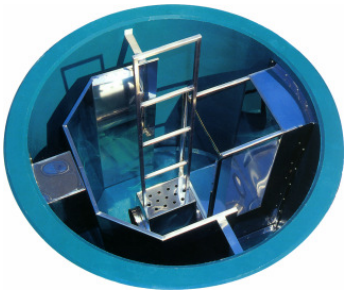
That is particularly the case if
➢ the industrial process water contains emulsion or
➢ the plant is settled in a sensitive area or
➢ the sewage is led directly to waters (lake, stream, ground water) In other words, if the plant is not connected with the public canalization.

The BENE DEMULGON fulfils the demanded conditions - the physical emulsion separation plant.

On the contrary to traditional purification processes, the BENE DEMULGON can manage the purification

❍ without external energy and
❍ with little construction costs

The BENE DEMULGON is the ideal alternative to chemical emulsion separation plants.
Ecology and economy are well balanced compared to the capacity of similar purification plants.



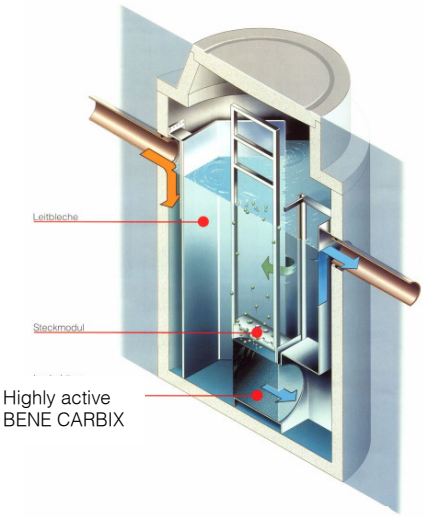
BENE DEMULGON

- physical adsorption and demulsification plant
- best purification performance
- patented

- little auxialiary agent consumption
- little consturction costs
- minimal inspection expenditure
- minimal hazardous waste
- user-friendly

Operating range
BENE DEMULGON is installed behind a coalescence (or behind a grease) separator.
In respect to ecological and economical issues, it makes most sense to install the BENE DEMULGON behind the high quality separator BENE ACTRON or BENE PROTECTON.
These separator plants take away the separated oil from the separator surface.
That means an effective pre-purification.
As a result, there are longer static times for the activated unit in the BENE DEMULGON and highest purification capacities can be granted.

The function of BENE DEMULGON



Pre-purified sewage flows into BENE DEMULGON. The baffles lead it to the push-on module. That is where the purification process itself starts. The highly active BENE CARBIX has an effect on the module which is a void-stable polyurethane-scaffold with steamed-up adsorbent. The extremely porous structure guarantees a high flow rate. The steam-up adsorbent provides a large surface with fine voids. Due to molecule-molecule force of gravitation (Van-der-Waals-powers) the rest of pollutants can be stored at the voids. The adsorbed pollutants are combined to larger drops which rise up to the surface of the BENE DEMULGON. Purified as it is, the sewage leaves the BENE DEMULGON and can be led to the canalization or directly into waters.

Cleaning performance
In an independent checking of the LGA Würzburg (National Institute for Quality Reports) 4230 mg/l hydrocarbons together with a high concentration of emulsifying agents (for instance motor vehicle purification agents) were discharged. During that process there was a total KW-concentration of 0,5 to 1,7 mg/l.
A very good performance!

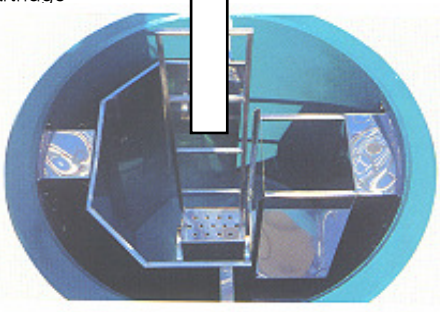
What materials can be treated?
Here is a list of those materials the BENE DEMULGON removes from the sewage. In general it can be said that most materials that consist of hydrocarbon can be stopped by the BENE DEMULGON.

	can be adsorbed very well	can be adsorbed	can't be adsorbed
petrol	•		
diesel fuel	•		
four-star petrol	•		
engine oil	•		
synthetic oils	•		
kerosine	•		
vegetable fat	•		
animal fat	•		
BTX (benzene, toluene, xylene)	•		
PAH (polycyclic aromatic hydrocarbons)	•		
Purification agents for motor vehicles		•	
Soaps		•	
heavy metals			•
boring oils (due to the product)	•	•	•

We will be glad to check if you can use BENE DEMULGON in your particular case.

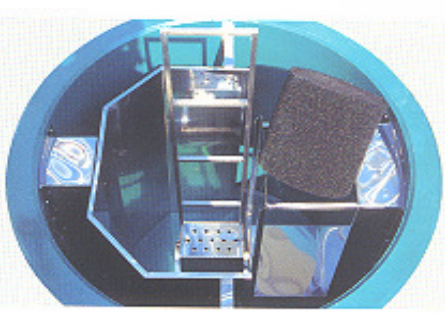
Easiest maintenance:

1. Pulling out of the cartridge



2. Pulling out the BENE CARBIX

3. Putting back in the cartridge



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BENE Separa

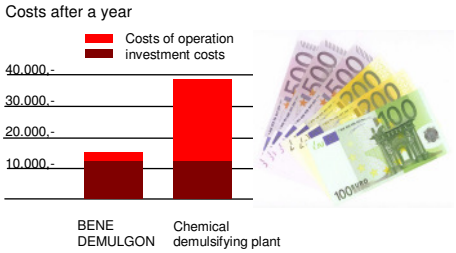
Technical Product Sheet

BENE DEMULGON
Physikalische Adsorptions- und Emulsionstrennanlage

Maintenence-reduced + lowest cost safety technology for plants requiring high operational security

What is so special about the BENE DEMULGON compared to chemical emulsion separation plants?

BENE DEMULGON is a physical emulsion separation plant which means it works due to the principal of adsorption. That entails several advantages:
Compared to a chemical separation plant the only servicing process is to change the activity unit BENE CARBIX quarterly or once a year (due to pollution loading).
The BENE CARBIX is the only operating method, the only auxiliary agent.
As a consequence it is possible to save a lot of money compared to chemical separation plants.



Economic advantage

In this practical example you can save more than 20.000 € a year on operation costs.

Advantage for the environment

Additionally the environment pollution is smaller. Because when using BENE DEMULGON only 60 litres of solid grease- and oil- polluted operation materials accrue when exchanging the active unit BENE CARBIX (ASN160107). When using demulsifying plants the operator has to dispose big amounts of environmentally harmful hazardous waste at a very high cost!
Another advantage: The BENE DEMULGON does not require a complicated control-system. The BENE DEMULGON is very user-friendly! You do not depend on external energy either. In terms of ecology and economy, the BENE DEMULGON is the best alternative compared to a chemical separation plant.
Comparable purification performances are accomplished at minimal costs.

Legal issues

For operation without connection to the canalisation channel the following is valid according to EN 858-2, table B.2:
"Waste water from the separator may not be let in directly to surface waters. (...) (Letting in is allowed only) ... when the waste water (...) has been additionally treated." Besides according to this standard EN 858-2, Tab. B.2:
"Cleaning with HP-device, rotating cleaner and removing bigger amounts of paraffin, wax etc. and rustproof treatment" is allowed only with demulsification plant or advanced waste water treatment!

Examples for the use of the BENE DEMULGON:

- car wash and lorry wash
- motor vehicle-wash plants
- garages offering wet cleaning
- garages offering engine cleaning
- barracks
- car producing plants
- power plants
- omnibus stations
- transport services
- carriages
- scrap yards
- high-pressure purification plants
- fire brigade garages
- the use of defined detergents and tensides
- restorations of ground water
- plants without a connection to the canalization.

How reliable is the BENE DEMULGON?

BENE DEMULGON is reliable for many years in practical usage. We will be pleased to show you references also from your area.

What sizes are available?

BENE DEMULGON can be delivered in parameters 4 up to 100.
Further nominal sizes are being prepared.
The parameter KG complies with the separator nominal sizes NS.

Text for bids

Physical adsorption and demulsification plant
ENE DEMULGON
Nominal size ……..
For underground installation
Outside coating made of reinforced concrete B45,
Built-in parts made of stainless steel ,
Cleaning performance ≤ 1,7 mg/l
Also if motor vehicle detergents are used
Checking conditions (neutral testing authority),
Cartridge made of stainless steel
With active unit BENE CARBIX
Of void-stable PU-foam
With steamed-up adsorbent
Without adding of chemicals,
without usage of extern energy
Pipe connections DN……..mm
Heaviest single weight ……to

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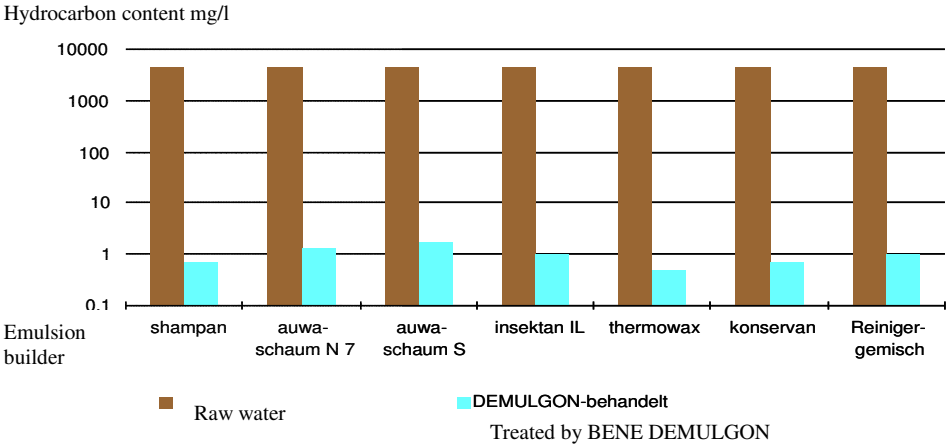
BENE Services

We are always prepared to offer additional services to our customers:

- Installation supervision
- Commissioning
- Instruction
- Expert training
- Maintenance and inspection

A technical advisor from BENE will be glad to visit your location for a non-binding consultation. Just give us a call.



Parameter	Diameter inside	Inflow and outflow diameter	Height	Inflow depth (usual)	Heaviest single weight	Total weight
[KG]	[m]	[mm]	[m]	[m]	[t]	[t]
4	1,20	150	1,34	0,95	2,31	3,31
6	1,20	150	1,34	0,95	2,52	3,52
10	1,50	150	1,34	1,00	3,03	4,53
15	1,50	200	1,54	1,05	3,44	4,93
20	2,00	200	1,22	1,05	5,12	7,42
40	2,50	300	1,72	1,20	9,30	12,30
65	2,50	300	2,72	1,20	9,45	12,45
80	2,50	300	2,72	1,20	9,60	12,60
100	2,50	300	2,72	1,20	6,75	12,75

Pay attention to local frost free depth, usually 70-120 cm.
Other inflow depths if required.
The chart content is valid for covers class D.
For class B the size gets smaller at 4 cm.
No warranty on information.
We reserve the right to change data.
For building project our object installation drawings are valid.
State March/04.