

Innovations for clean water



INDUSTRIAL
SOLUTIONS



Practical Report Bakery

They begin their work, when the others are sleeping

One o'clock in the morning. The moon hangs high in the sky and one or two stars twinkle through the clouds. While at this time most people are sleeping blissfully, the last TV viewers are switching off their sets or those remaining from the evening before are wandering home tired through the darkness, a complete trade has already been on its feet for some time...

Report: Murat Ceylan
Photos: Uwe S. Meschede



Scene of the action – the bakery *“As naturally as possible” is the maxim of baker Joebges in the rural surroundings of Rhineland Mönchengladbach. All products baked in the 150 year old traditional business, from baguette to the speciality of the house, the black bread, are made and baked by hand using natural ingredients.*

That this philosophy is also reflected in other parts of the business almost goes without saying. Even the treatment system for wastewater from the bakery was selected with much thought and after long consideration of the subject matter: the AQUAMAX® GASTRO from ATB.

Sleepless nights are a part of the trade and, even for an ardent baker, always remain hard. Nevertheless, there are still completely different moments which can, for him, certainly put a spoke in the wheel...



Mr. Joebges experienced one of these moments when one day he received a letter from the subordinate water authority in which the retrofitting of the existing wastewater treatment system was recommended. Particular emphasis was placed on the treatment of the wastewater from the area of the bakery.

As so it ensued that, after some research, he came upon the ATB marketing partner of RHEBAU GmbH & Co. in Dormagen and requested them to provide a quotation for the solution of his wastewater problem.

An inventory was then made with Herr Joebges during a visit to the site: connected to the wastewater treatment

system are two small dwelling units and the Joebges family bakery. Above all the trade wastewater here represents a particular challenge to the wastewater treatment plant. This applies both for the irregular amounts of wastewater produced and for the pollutant load included therein.

At the Joebges baking depends on the day of the week...

From one o'clock in the morning to lunchtime life is hectic in the Joebges bakery before the bakery team can enjoy its well-earned rest. As a rule, with the wastewater to be treated, one is concerned with cleaning and washing-up water which comes from clean-

ing the utensils and baking sheets as well, naturally, from the washing of hands. As a result the washing-up water contains a large amount of starch, flour and remains of dough and, naturally, corresponding detergents. But also residues from the "confectionery" department which, depending on the time of the year and season, are not unusual and not inconsiderable, increase the organic pollution load of the wastewater. Above all, however, there are the large quantities of water which occur in surges which make it hard for conventional plants working on the throughflow principle. Most of the wastewater is produced at the end of a working shift, when the working places and the utensils used are cleaned and made ready for the next





day. Thus, in the course of a day, there are considerable fluctuations. On Sundays this area remains closed.

This wastewater is set to correspond with ca. 4 PT when dimensioning the system. To this are added 8 PT from the two dwelling units. With the arrangement of the plant capacity an AQUAMAX® GASTRO 9-16Z was finally chosen.

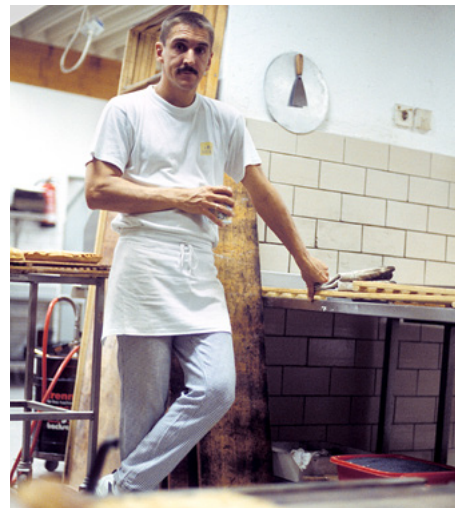
The existing three-Chamber was included in the plan...

With this situation the existing three-chamber tank with a useful content of 6 m³ could be included as preliminary treatment facility as the structural substance of the concrete body was still in a good condition. To be connected downstream of this was to be a buffer tank, with a useful vol-

ume of 3 m³, to cope with the hydraulic surges. The SB reactor with a 6 m³ capacity is then fed evenly from this buffer by means of a separate pump.

Precisely this individual and "made-to-measure" solution for this special case appeared to Herr Joebges to be the most practical so that he decided on the installation of the proposed plant. This decision was then, a short

Stress from one o'clock in the morning onwards: in the Joebges bakery meticulous tasks are on the agenda – every movement fits, every minute is pre-planned. Even with the sip of coffee in between an eye remains on the oven.





time after, confirmed by the responsible water authority with the granting of approval.

Baker Joebges can again concentrate on what is really important : quality and the sale of his bread and pastries.

After the tanks had been emplaced and the AQUAMAX® installed the plant finally went into operation for the first time in March 2002.

Maintenance takes place three times a year...

In the meantime the plant has been maintained three times a year. The first maintenance took place ca. 6 months after commissioning in October 2002. On this occasion the discharge values were COD 35 mg/l and BOD₅ 10 mg/l. This excellent treatment performance has up until now always been repeated and the most recent maintenance has further substantiated this as the discharge values were COD 29 mg/l and BOD₅ 11 mg/l. The first sludge removal only occurred after 15 months, in June 2003.

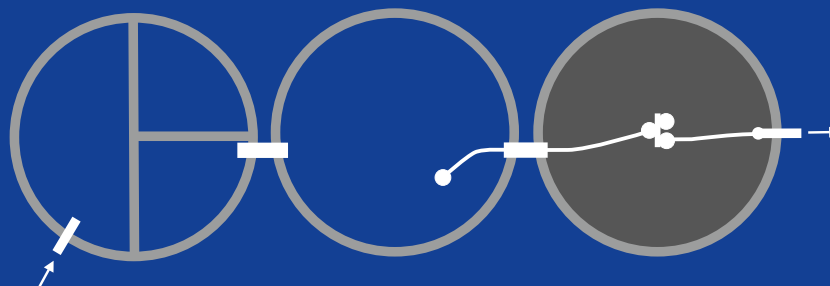
Herr Joebges can rely on his wastewater treatment system when he carries out his work night after night - the AQUAMAX® GASTRO 9-16Z gives reliable service.

The bakery project at a glance:

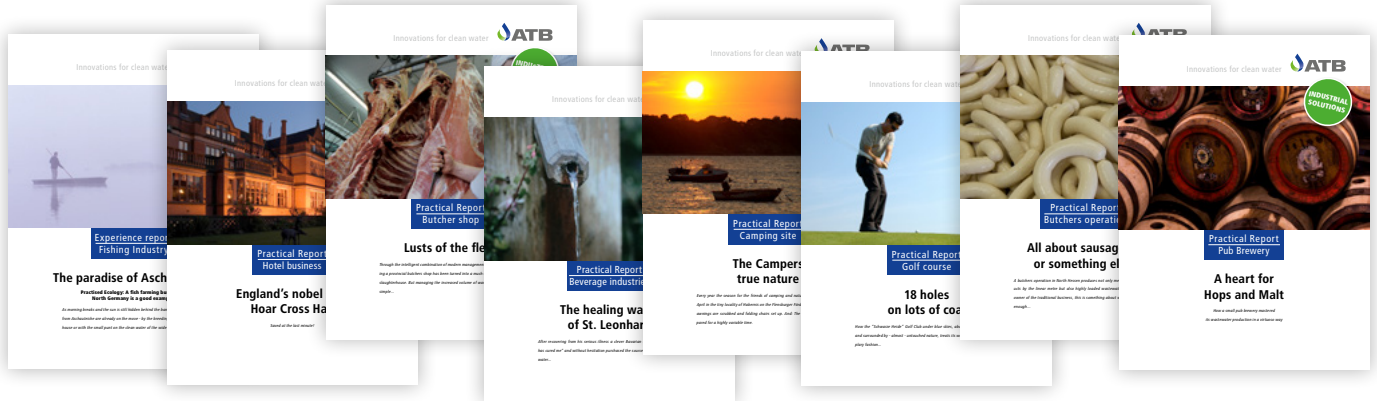
Owner	Joebges bakery
Project management	RHEBAU GmbH & Co.
Implementation	Plant technology ATB GmbH Installation RHEBAU GmbH & Co.
Peculiarities	High organic load through flour and starch
Cost of plant technology	Ca. 6.200,- € (Retrofitting)
Commissioning	March 2002
Required treatment performance	COD < 150 mg/l BOD ₅ < 40 mg/l
Discharge values	COD < 40 mg/l BOD ₅ < 12 mg/l

Result

Baker Joebges can now relax after work with a clear conscience and look forward to his well-earned sleep ... while the others have to continue to work!



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