

## CASE STUDY

# Energy pioneer with a role model character

Güneck wastewater treatment plant: Massive energy savings thanks to the new Delta Hybrid D50S with direct drive

**160,000 P.E.**

Capacity

**> 100 %**

Energy self-sufficiency

**31 %**

Energy saving



### The problem

Excessive energy consumption of the biological treatment phase

In 2023, the Grüneck wastewater treatment plant near Munich Airport was able to cover its entire energy demand through its own generation for the first time and is now aiming for 150 % energy self-sufficiency. To achieve this ambitious goal, the Bavarians want to reduce their energy consumption as much as possible. The biological treatment phase offers the greatest leverage for this.



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The new Delta Hybrid with direct drive brings us significant cost benefits. Our service technicians are delighted with the simple, uncomplicated maintenance.

Jacob Rottmeir  
Managing Director of the Unterschleißheim,  
Eching and Neufahrn Wastewater Association



**AERZEN**  
EXPECT PERFORMANCE



## The solution

### The new Delta Hybrid D50S with direct drive

The base load in aeration tank II is now covered by an AERZEN Delta Hybrid D50S with direct drive, IE5 synchronous reluctance permanent magnet motor and integrated VFD. Aeration tank II consists of two parallel treatment lines, each divided into four individual cascade tanks.

1

The Delta Hybrid D50S is an efficient plug & play solution for the biological aeration of aeration tanks. It replaces a Delta Blower positive displacement blower and serves as a base machine.

2

The innovative screw blower reliably provides 100 % oil-free process air, operates in an extended control range of up to 1:5 and also offers high efficiency in the partial load range.

3

The package is ready for immediate use on delivery (plug & play). The space-saving side-by-side installation and the excellent volume-flow-per-square-meter value result in smaller machine rooms and therefore lower building investments.



Type of technology	Screw blower
Version	Positive pressure
Volume flows	3060 m <sup>3</sup> /h
Positive pressure	1.250 mbar (g)
Conveying media	Air
Conveying	Oil-free

## The result

### More efficiency and sustainability

Thanks to the switch from conventional positive displacement blowers to a Delta Hybrid D50S with direct drive, the Grüneck wastewater treatment plant can reduce its annual energy consumption by up to 77,000 kWh. This means a saving of up to 31 %. The above-average oil change and maintenance intervals, the completely maintenance-free drive components and the user-friendly handling are also impressive.



# 77,000 kWh

Energy savings per year

## Summary

No other package in this performance class on the market achieves such high energy savings as the AERZEN Delta Hybrid with direct drive and IE5 synchronous reluctance permanent magnet motor. The future-orientated design sets standards and enables the energy-intensive water and wastewater industry to make considerable energy and CO<sub>2</sub> savings and thus also significant cost reductions.

