

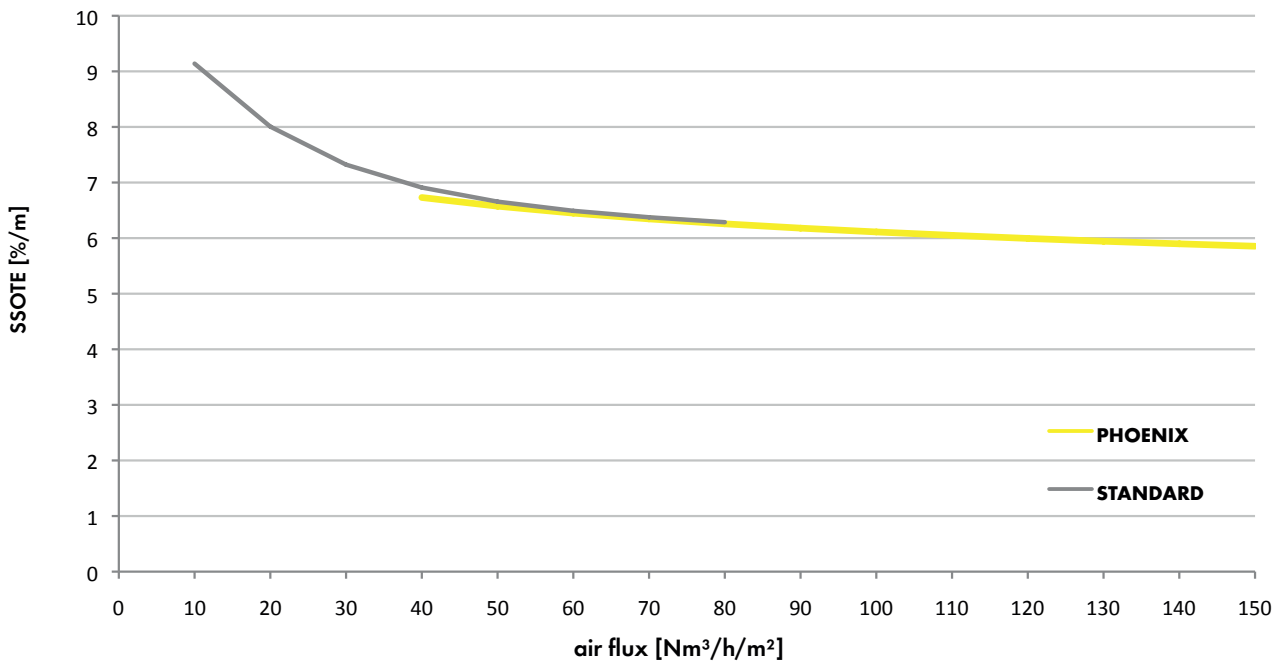


PHOENIX is the **High Performance Membrane** for **AEROSTRIP®** diffusers.

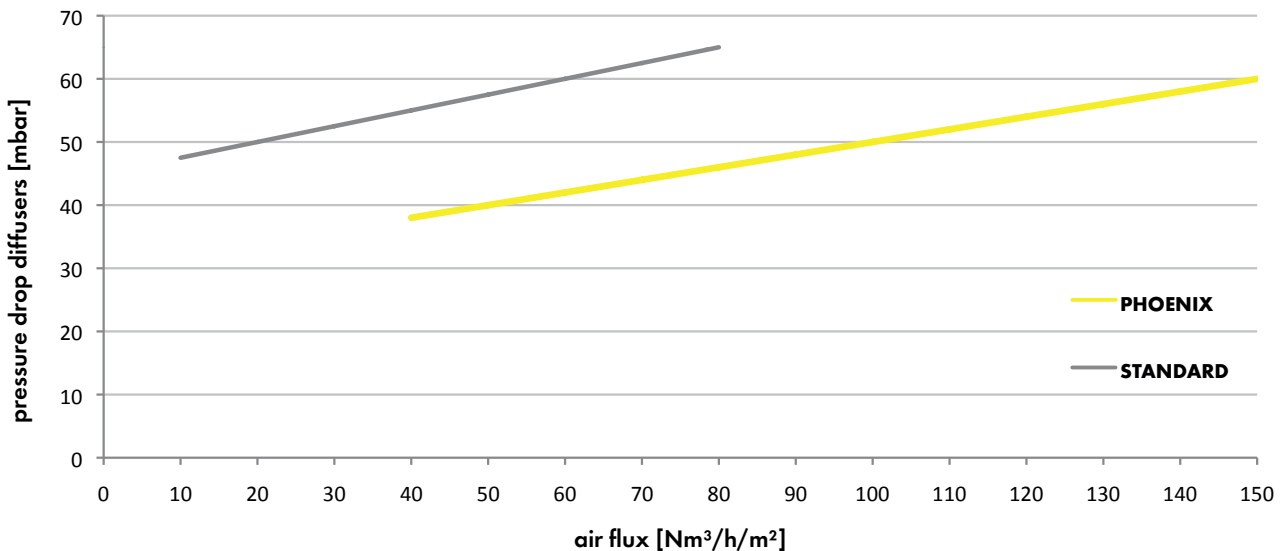
The **PHOENIX** membrane incorporates an innovative perforation pattern that accommodates a wide range of **air flow conditions** at a **reduced head loss** than standard membrane **AEROSTRIP®** diffusers.

SSOTE...Standard Specific Oxygen Transfer Efficiency

specific oxygen yield at site water depth 4,0m; bottom coverage 10%



Pressure drop - AEROSTRIP®



AEROSTRIP® PHOENIX membrane

What is the advantage of the PHOENIX membrane?

The PHOENIX membrane has an innovative and **enhanced perforation pattern** that allows **higher air flow rates** at a **reduced head loss**.

Using the PHOENIX membrane will **reduce** the **number of diffusers** required on a project, **reducing capital cost**.

Where can the PHOENIX membrane be used?

The low pressure drop of the PHOENIX membrane makes it **ideally suited** for use in wastewaters **and industrial process waters** that have a high fouling potential.

High solids applications such as MBRs and aerobic sludge storage reactors are prime candidates for use of the PHOENIX membrane.

Low pressure drop of the PHOENIX membrane contributes to low energy consumption.

What differentiates the PHOENIX membrane from the standard membrane?

The perforations in the PHOENIX membrane have a different shape, size and orientation than the standard membrane. Additionally, there are less perforations with the PHOENIX membrane than there are in the standard membrane.

The PHOENIX membrane uses **the identical high quality, time proven, low maintenance, long life polyurethane membrane material as the standard membrane**.

What is the operating range of AEROSTRIP® diffusers with the PHOENIX membrane?

The PHOENIX membrane is designed for high performance and is recommended for **all applications where a high air flux is required**.

The **recommended range of operation** is from **40 Nm³/h to 120 Nm³/h per m²** diffuser area.

The **maximum allowable** air flux is **150 Nm³/h per m²** diffuser area.

Even with the low operating pressure of the PHOENIX membrane, an even bubble pattern and uniform air distribution are provided at **flux rates as low as 40 Nm³/h/m²**.

For applications with a design flux rate of less than 40 Nm³/h/m², the AEROSTRIP® standard membrane is recommended.

What is the pressure drop of AEROSTRIP® diffusers with the PHOENIX membrane?

As shown on the graph presented on the previous page, the pressure drop of a **new diffuser** with the PHOENIX membrane is **35 to 60 mbar**. This value is dependent on air flux rate.

The pressure to activate or open the PHOENIX membrane is approximately 20 mbar below that of the standard membrane.

The **maximum allowable** pressure drop is the same as for the standard membrane **110 mbar**.

Have PHOENIX membranes been field tested?

PHOENIX membranes have been in operation since 2015.