

# Documentation

A system's proper documentation, the prerequisite for safe operation.

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For the biogas plants we plan, the compilation of a detailed and complete documentation is obligatory.

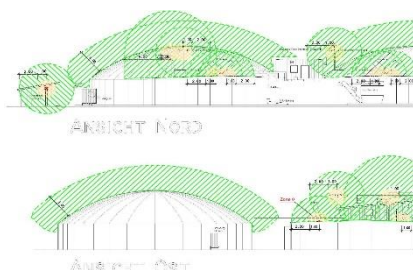
A comprehensive plant documentation in chronological order not only provides the basis for safe and trouble-free operation of the plant, but also an important contribution to maintain the value of the investment. Last but not least, certain documents are legally required, for example by the German safety regulation BetrSichV (Betriebssicherheitsverordnung).

We are also specialized in technically reviewing the operating documentation for existing biogas plants and bringing them up to date. Missing documents are supplemented to obtain legally compliant operation.

A proper plant documentation should have the following content:

- Hazard assessment with explosion protection concept and, if applicable, accident management concept (these documents are basic prerequisites for plant operation according to the BetrSichV).
- Ex-zone plan and fire-fighting plan.
- Process flow diagrams, specifying the material flow, as well as piping and instrumentation diagrams (P&ID).
- List of components of all installed equipment, units and fittings, with their essential technical data, as well as a relevant list of process measuring and control technology (PMC).
- Operation manual, with the description of the plant and its operation, the work instructions, operation logs, maintenance and safety instructions. The manual must also contain the (manufacturer) operating and maintenance instructions for all of the installed components, as well as all acceptance and test certifications, the approval notification and any relevant reports.
- All site plans, construction and piping plans with specifications, etc.
- Maintenance plans with spare and wear parts lists.
- Operating instructions, safety data sheets. Work and safety instructions for own and external personnel and visitors.
- It is also recommended to create a folder with copies of all invoices in the operating documentation (supplier documentation).

The complete operating documentation should be available to the operator in at least in two copies; one should be always available in the plant, and a second copy must be kept in a safe place.



Wartungsplan für Biogasanlage .....

Der folgende Wartungsplan zeigt Informationen der zentralen Instandhaltung und Instandhaltungskriterien, mit dem Ziel, das maximale Maß an Sicherheit zu gewährleisten. Alle Instandhaltungskriterien sind in der Anlage zu finden. Die jeweils durchzuführenden Tätigkeiten sind im Detail den Anstandsunterlagen der Herstellerwerke zuzuschicken.

Bauwerk / Aggregat	Ein- oder Ausbauelement	Wartungsintervalle	Wartungsart	Wartungszeitpunkt	Wartungsdauer	Wartungskosten	Wartungspersonal	Bemerkungen
<b>Anlagenstation</b>	<b>RAI 1</b>							
Ausfallgaswanne	H 01.1							Wöchentlich: Schmelze
Rechenbänne	H 01.2							Wöchentlich: Schmelze und Fett
Heizwasserboiler	Z 01.1	x						Kesselraum: Spannung prüfen, Wartungsplan
Heizwasserboiler	Z 01.1							Zweimal KW 4 und KW 01, Rotor und Verschleißteile tauschen
Speicherpumpe (Kühler)	PH 1		x					Lautlauf und Schwingweite, Schichtkontrolle
Kältemaschine	BO 1		x					Ölstand messen
Dampfboiler	W 01.1	x						Auf alle-geschützt prüfen.
<b>Stationenbereich + Wasserwerk</b>	<b>RAI 2</b>							
Pumpe: SAB	0	PH 1						Schichtarbeit prüfen
Pumpe: SAB	0	PH 1						Lautlauf Schichtkontrolle

