

8888

**TECHNICAL DATA****Digox 601 *dac***

<b>Device</b>	Digox 601 <i>dac</i>
<b>Measuring range</b>	Conductivity 0 – 200 mS/cm, divided into measuring ranges, pH 7.5 – 10.5
<b>Display</b>	Graphic display, backlit
<b>Accuracy</b>	± 1 % of the measuring field final value
<b>Alarm outputs</b>	six relays; 6 A/250 VAC max. 550 VA
<b>Error report</b>	accumulative error report, potential-free change-over contacts 6 A/250 VAC, water shortage, high temperature
<b>Operation</b>	password protection for the menu-led entry with 6 operating keys
<b>Analog outputs</b>	five 0(4)...20 mA, bi-linear, max. load 500 galvanically isolated
<b>Ambient temperature</b>	+5 – 45°C, storage and transport 0 – 50°C, relative humidity 30 – 95 %
<b>Sample quantity</b>	Display in l/h with digital flow rate sensor
<b>Power supply</b>	230 VAC 50/60Hz, 50 VA
<b>Weight</b>	40.0 kg
<b>Dimensions</b>	700 x 500 x 250 mm (HxWxD)

Subject to technical alterations.

**Necessary preconditions for the validity of the pH-value calculation:**

- Use of just one alkalisng medium
- Main contamination of NaCl
- pH-value >8
- Low phosphate concentration (< 0.5 mg/l)

**Dr. Thiedig****Engineering Solutions**

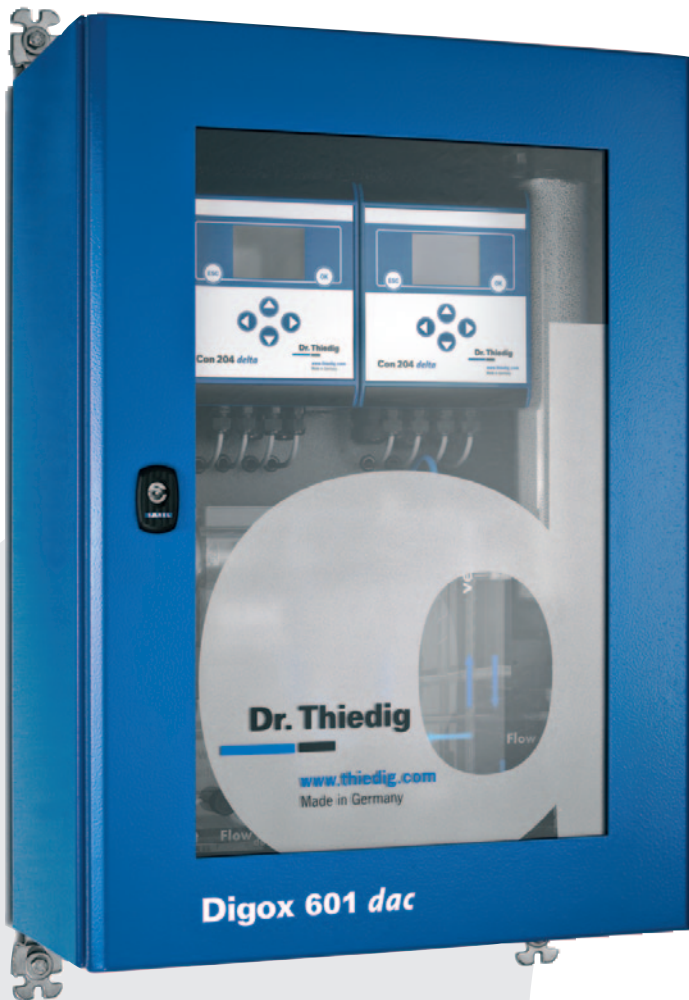
For further information please do not hesitate  
to contact us: Service +49.30. 49 77 69 - 0

**Dr. Thiedig + Co**  
Prinzenallee 78-79  
13357 Berlin  
Germany

Telephone +49 (0)30/497769 - 0  
Telefax +49 (0)30/497769 - 25

info@thiedig.com  
www.thiedig.com

# Dr. Thiedig



## Digox 601 *dac*

Degassed Acid Conductivity

# Digox 601 *dac*

Degassed Acid Conductivity



**The conductivity in the water-steam circuit in power plants is an important measurement.**

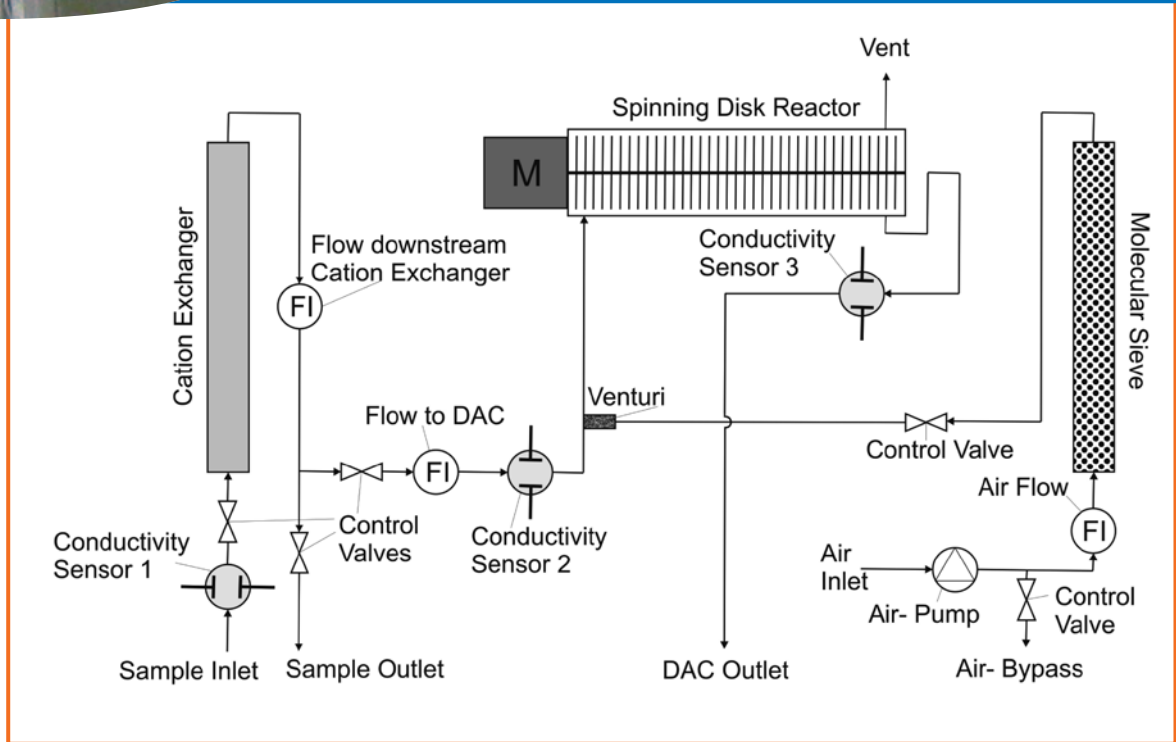
**It must be distinguished between:**

- **Specific conductivity**  
which records the sum of all charge carriers and is mainly caused by enriched alkalisating materials.
- **Cation conductivity**  
which records the sum of hydrogen ions occurring and to a limited extent anions, i.e. also  $\text{CO}_3^{2-}$ . In normal conditions,  $\text{H}^+$  and  $\text{OH}^-$  combine to form water according to the ion product so that the cation conductivity value of  $0.2\mu\text{S cm}^{-1}$  will not be exceeded. As soon as the cation conductivity demonstrably exceeds this value or is possibly even higher than the specific conductivity, a case of break-down has occurred which is either due to a
  - coolant leakage or an
  - air-inleakage.

In order to ensure a short start-up phase, it has to be differentiated whether an air-inleakage or a coolant leakage exists. Therefore, it is necessary to remove the carbonic acid from the sample. The conductivity after the  $\text{CO}_2$ -degassing is now measured (degassed conductivity).

If the conductivity value measured after degassing falls under the value of  $0.2\mu\text{S cm}^{-1}$  then merely  $\text{H}^+$  and  $\text{OH}^-$  according to the ion product of the water are still present as well as slip-induced anions as charge carriers. Thus, a cooling water hardness change can be ruled out and the start-up phase can be significantly shortened.

With the **Digox 601 *dac*** you have a universal measuring instrument at your disposal. In the compact design, the specific conductivity and the cation conductivity are measured and the pH-value is calculated – the “degassed conductivity” is displayed.



flow chart

## Advantages

- Degassing and measurement at normal temperature
- No heating up, therefore no gas emissions of other volatile acids
- No inert gas required, air-conditioning by means of a molecular sieve
- High gain of degassed carbonic acid
- Interpolation of measuring results to actual CO<sub>2</sub> content
- Automatic shut down of the DAC reactor following the fall below the acceptable limit of 0.2 μS cm<sup>-1</sup> (VGB-guideline)
- Short response times
- Regenerative operating chemicals

The analyser **Digox 601 dac** ensures very short start-up times of the power plant.

