



#### Reliable

Reliable operation despite extreme process conditions

#### Cost effective

Density measurement from the outside, without invasive changes to the pipe

#### User friendly

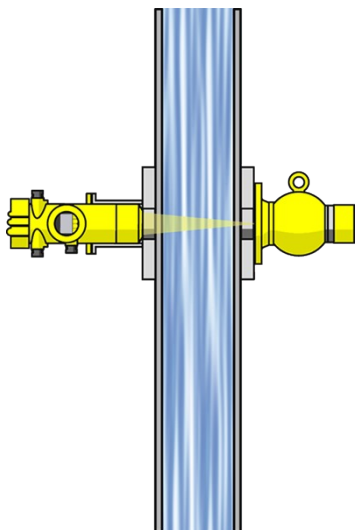
Optimized for the application, long-term maintenance-free measurement

## Pipeline in the liquor recovery process

### Density measurement in liquor recovery

The black liquor resulting from pulp cooking is regenerated and fed back into the digester. Liquor regeneration comprises several process steps. The processes take place at high temperatures and pressures; the media are aggressive and sometimes abrasive. Density measurement of the liquor in the pipelines is required for eco-friendly and energy-efficient process control.

[More details](#)



### MINITRAC 31

Density measurement with radiation for energy-efficient liquor regeneration

- Enables automation of liquor regeneration process
- Non-contact measurement right through the vessel wall
- Maintenance-free operation

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### VEGASOURCE 31

The source holder serves as a housing for the radiation capsule and protects it from external influences

- Minimal space requirements and simple mounting
- Operational reliability and safety with pneumatic shutter on the source holder
- Optimum shielding allows use without a restricted access area

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**MINITRAC 31**  
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**Measuring range - Distance**

-

**Process temperature**

-40 ... 60 °C

**Process pressure**

-

**Accuracy**

0.1 %

**Materials, wetted parts**

No wetted material

**Seal material**

no media contact

**Housing material**
Aluminium  
Stainless steel (precision casting)
**Protection rating**

IP66/IP67

**Output**
Profibus PA  
Foundation Fieldbus  
4 ... 20 mA/HART - four-wire
**Ambient temperature**

-40 ... 60 °C

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**Ambient temperature**

-20 ... 80 °C