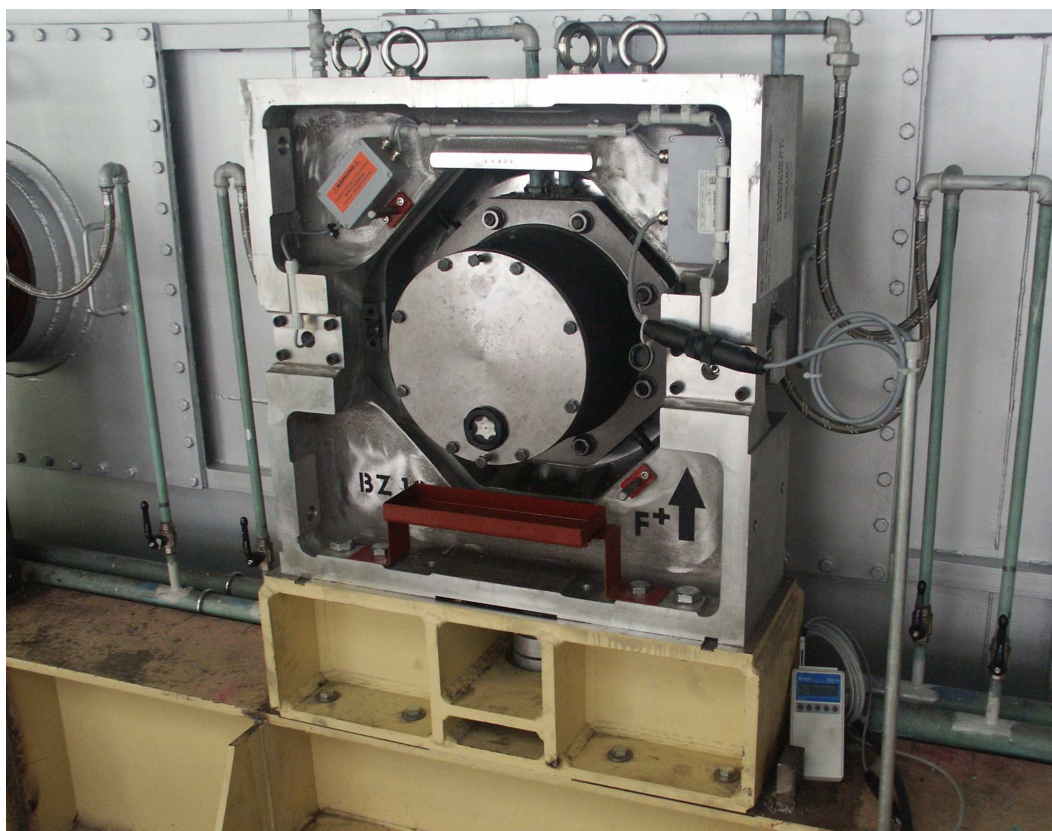


## Measuring frame for strip tension measuring in continuous running furnaces



### Purpose

Measuring of the strip tension forces inside the furnaces of continuous galvanizing and heat annealing lines.

### Function

Measuring the resultant forces at deflector rolls using special load cells mounted into open or closed measuring frames

### Advantages

- Elimination of the influence of the shifting motions caused by roll axle elongation or contraction during heating or cooling the furnace. Result: High stability of zero and span over the full specified range of ambient temperature.
- Very high measuring accuracy and fast response to load changes.
- Frames delivered to site are fully equipped, calibrated and ready for mounting.
- Insensitive to electromagnetic, specially to high frequency effects.
- More than 20 years positive experience with now more than 500 furnace tensionmeters installed all over the world, all running without any problems.

- Optimal mounting conditions for the measuring frames Dr. Brandt achieved by their weight reducing and compact cast aluminium alloy design. Large flexibility of force direction and mounting situation.
- Simple and secure handling in case of roll change.
- Long-term reliability of technical data.

### Assembly

The system consists of an interior part holding the roll bearing house and an outer frame for the mounting on the support both made from cast aluminium alloy. The two parts are connected by two special designed load cells so that roll axle shifting will not make any distortion to the measuring results. Measuring direction defined by the frames mounting position. Either horizontal or vertical or also biaxial measuring forces (for driven rolls) can be measured using the same frame type.

### Use

Strip tension measuring in continuous running furnaces. For instance: CAL (continuous annealing lines), CGL (continuous galvanizing lines) etc. Furnace inside temperatures up to 850°C (using cooled bearings).

## Specification

Bridge-resistance nominal  
Bridge-resistance actual value  
Bridge feeding voltage

1000  $\Omega$   
see test certificate  
35 VDC max.

Nominal sensitivity corresponding to  
output signal at nominal load

0.5 mV/V Standard

Combined error

$\leq 0.25$  % f.sc.

Linearity

$< 0.25$  % f.sc.

Repeatability

$< 0.1$  % f.sc.

Temperature drift / 10 K

$< 0.1$  % f.sc.

Compensated Temperature Range (Std.)

+ 20°C...+ 80°C

Maximum Operating Temperature Range (Std.)

0°C... + 125°C

Standard nominal load steps\*)

kN: 1,0; 1,25; 1,5; 2,0; 2,5; 3,0; 4,0; 5,0; 6,0; 7,5  
10; 12,5; 15; 20; 25; 30; 40.

Overload capacity without damage of the  
measuring system

$\geq 8$  times the nominal load

Measuring cable with plug in connector on  
frame side. On the other side open wires.

Length 15 m. Other lengths on request.

\*) Deliverable nominal loads per frame. Other nominal loads on request.

