schenck process

news

Heavy Industry 12.2005

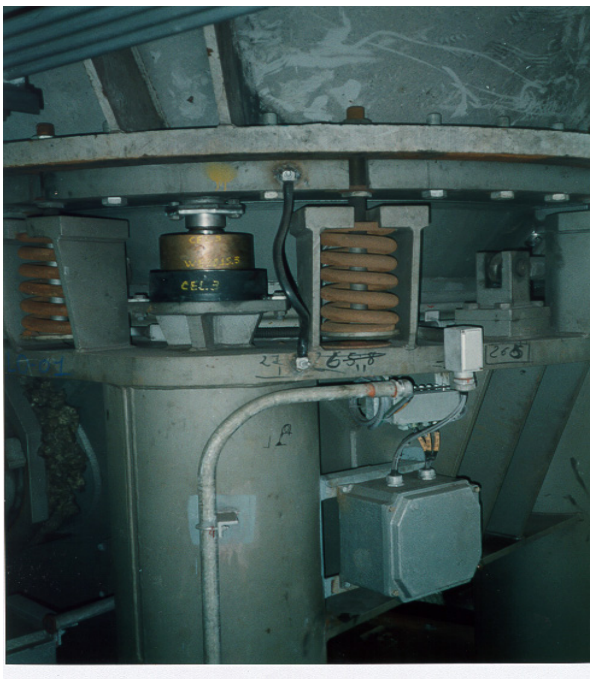
20 years Schenck Process – Direct Weighing Technologies: perfectly suited weighing solutions for steel industry

When in summer 1985 at Hoogovens in the Netherlands for the first time Schenck Process - Weighbeams had been commissioned successfully inside a ladle turret, it was quickly proven, that indeed an innovative new technology for various weighing applications in the heavy industries had been created.
At the occasion of this jubilee the today´s edition of the HI - News points out the essential features and advantages of Schenck Process - Direct Weighing, always looking for new beneficial applications in your working processes.

As a first example we would like to present to You two different executions of a special bin weighing system:

Execution 1:

Support of the bin on 3 Loadcells with elastomer mounts, horizontal tie-rods and pre-strengthened hold-downs:



For standard bin weighers the conventional solution - using Loadcells RTN and Compact Mounts VKN - still remains the most economical solution in future. Nevertheless for systems with special installation conditions, like the here discussed supporting point of the top -hopper silo of a blast furnace, such as

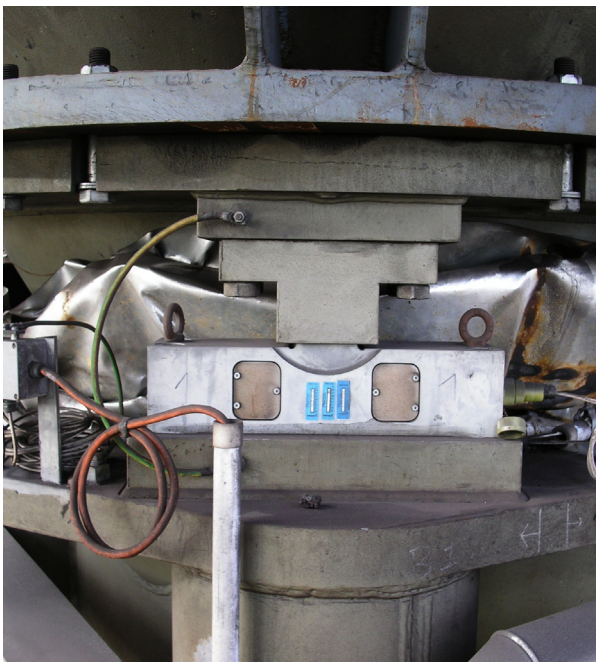
- high wind and seismic loads, or
- lifting forces caused by internal process pressure

execution 2 shows a mechanically completely different solution, now using the Schenck Process - Direct Weighing Technologies :

Execution 2:

Support of the bin on 3 Weighbeams DWB.

The simple comparison of the two photos reveals the crucial features and the advantages of Direct Weighing in this application:



news

schenck process

At each of the three supporting points one Weigh-beam DWB is simply screwed

- **from the bin suspension ring and**
- **to the steel foundation.**

The major difference to execution 1 is based on the principle, that absolutely no further supporting elements between the bin and the ground are required anymore, leading straight to the following advantages:

- no shunt forces, that especially on the long term operation are difficult to manage,
- no moving parts,
- no mechanical adjustment works,
- for the mechanical installation no special training is needed,
- the weighing system based on Weighbeams works entirely maintenance-free and insensitive against dirt or dust pollution.

Obviously many internal process weighing systems can be executed in an easier and finally more reliable manner using Schenck Process -Direct Weighing Technologies. Problems with blocked tie-rods, hold-downs or closed bumper gaps will disappear for all times!

As second example for an economical and successful installation of Schenck Process-Direct Weighing please find below two photos of three new built scrap trailers with a total gross weight of 120 t each. The weighing system installed simply consists of 4 Weighbeams DWB 50t in a double frame arrangement.
Different from the conventional solution for such a weighing double frame (using Loadcells RTN, Elastomer mounts VEN, external bumpers and hold-downs), also in this case the Weighbeams have been simply screwed between the upper weighing frame and the trailer wheel base frame. In the heavy and dirty surrounding of the scrap yard this solution contains several advantages:

For the manufacturer of the trailor:
- easy design using standardised sensors,
- easy and quick commissioning due to the minimised number of parts.

For the final costumer in the steel plant:
- highly minimised shunt forces by dirt and dust,
- high accuracy with a deviation during scrap loading of less than ± 300 kg,
- high mechanical stability of the dynamic load transmission during scrap loading.

Schenck Process – Direct Weighing Technologies:

The simple solution without compromise!

Schenck Process GmbH
Pallaswiesenstr. 100
64293 Darmstadt, Germany
T +49 6151 15 31-36 25
F +49 6151 15 31-32 70
m.brauer@schenckprocess.com
www.schenckprocess.com