



## ***Weigh Belt Feeder***

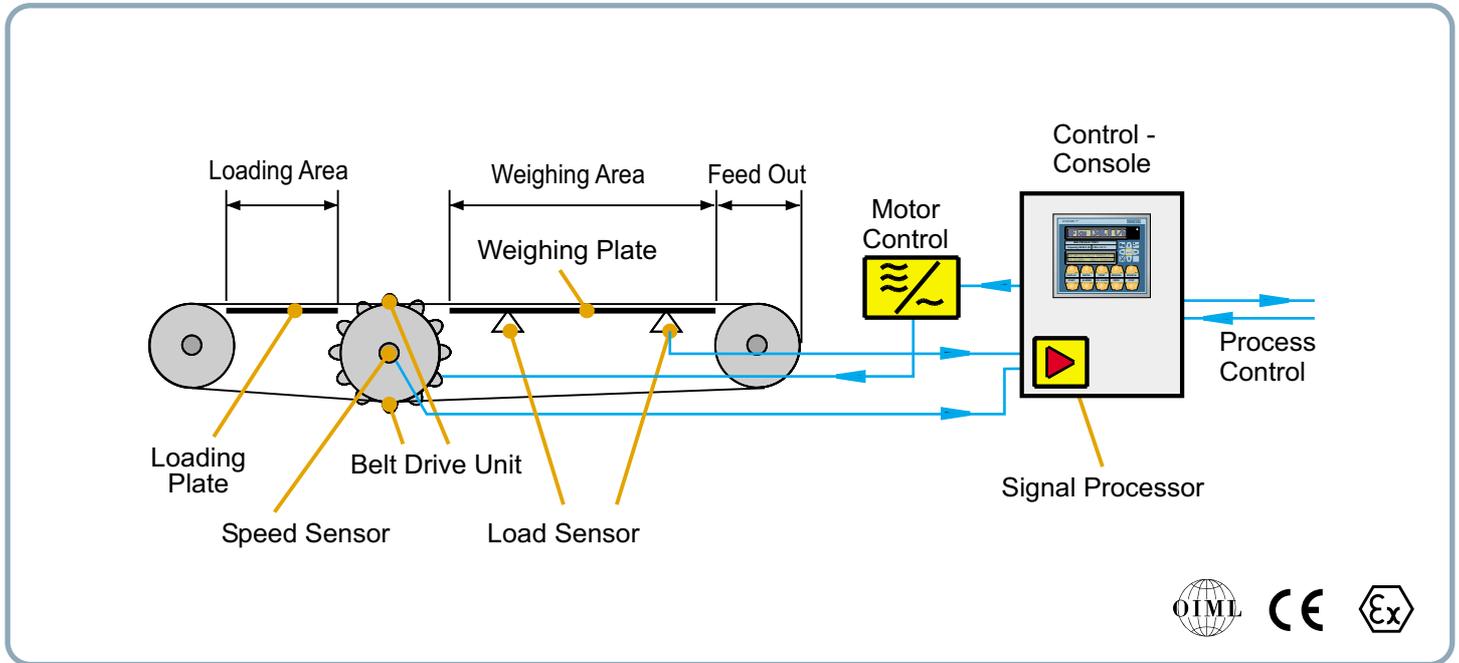


***Precision In-Motion Weighing  
of Light Solid Bulk Materials***

**THE INDUSTRIAL WEIGHING SPECIALIST**

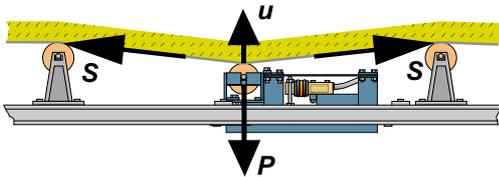
# Weigh Belt Feeder FK from S-E-G

Low density and fragile materials, like tobacco, tea and wood chips are traditionally hard to weigh. As material value may still be high, or a process may require close tolerances, precision weighing is sometimes essential. With its patented unique belt drive, the FK can weigh light weight, bulky materials reliably with very high accuracy.

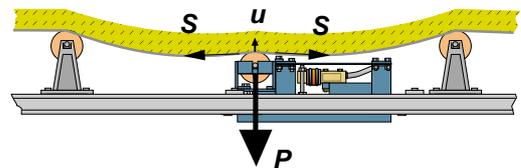


## Belt Tension - The primary problem when weighing in belt conveyors

When idlers in the weighing area are not aligned, the sensed load is influenced by belt tension. If the weighing roller is lower, the belt tension  $S$  causes a lifting force  $u$ . The sensed weight is  $P - u$ , not the material weight. Usually the belt tension  $S$  is about ten times the load  $P$  to avoid belt slip, making idler alignment very crucial.

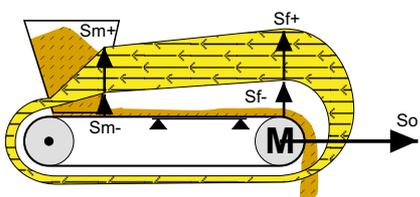


Thus imperfect alignment, dirt on rollers and varying belt tension generally causes the dominant belt weighing errors. A low, constant belt tension is always desirable. With low belt tension the belt tare weight distributes evenly on all of the rollers and the lifting force  $u$  is minimized.



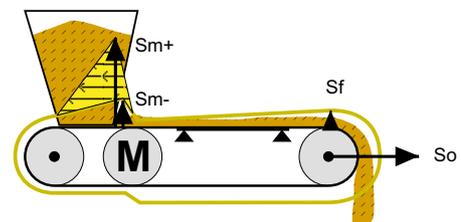
## Belt tension on a conventional feeder

Weighing is done where the belt tension is highest. To move the belt, the tension " $S_o$ " is required. Extracting the material requires an additional force  $S_m$ . The belt friction against the weighing plate gives a total  $S_f$ . Their values change from idling to full load as marked by - and +. The difference of the two states illustrates the large change of the belt tension over the weighing area.



## Belt tension on the FK Weigh Feeder

The force  $S_m$  exist between the hopper and the driving wheels, leaving the weighing zone unaffected. The tension force  $S_o$  required is not greater than the friction force  $S_f$ , as, due to the tractor feed, the belt cannot slip. Belt tension at the weighing zone is negligible and thus weighing insensitive to misalignment and dirt.



## Continuous Blending

A common problem in blending processes is one or more materials being too light to weigh, making automation hard to accomplish. The FK can offer a solution, handling the difficult materials with the highest possible precision. With serial computer interfaces and industry standard 4-20 mA in/output, it can cooperate with all types of equipment, making previously impossible processes conceivable.



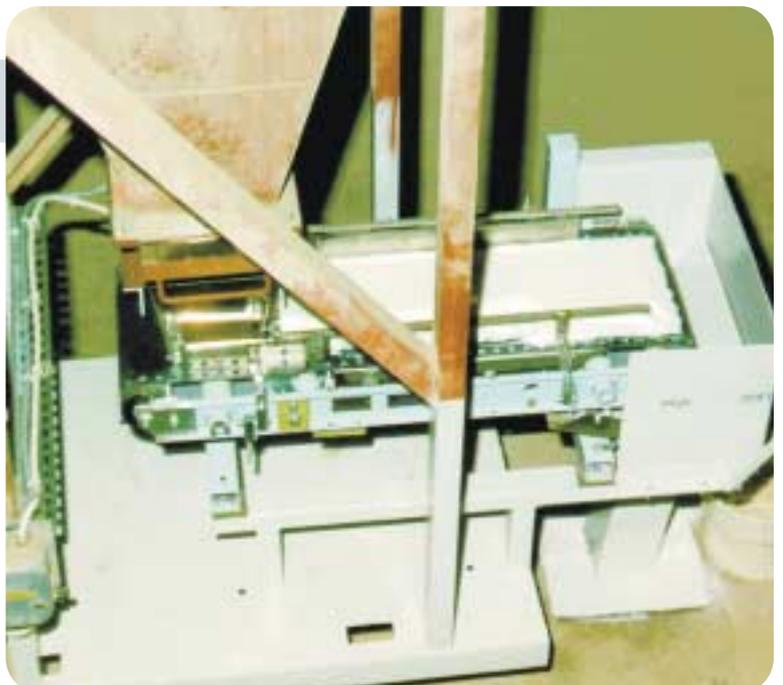
## Flow Control

In processes where a constant weight ratio is important, the FK's excellent accuracy results in superb rangeability, with 1:100 between min / max flow possible. As weighing occurs close to the discharging point, reaction time for an external change in required flow is almost instant. And with gravimetric measuring, set-point is maintained despite environmental variations.

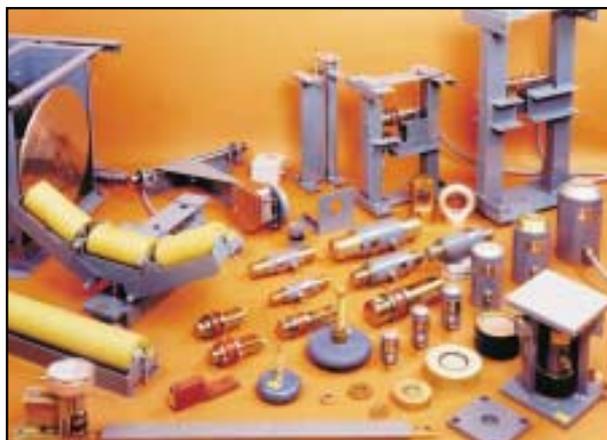


## Totalizing

Measuring the actual output with the highest accuracy is often needed for accounting and supervision. The FK is OIML type approved and may be certified in legal trade use, and it has built-in controller functions for preset loading quantities, multiple totalizers and feeder control.



# ***HEAVY INDUSTRIAL WEIGHING***



***S-E-G*** is one of few companies in the world specializing in industrial weighing. For over 50 years we have acquired a unique knowledge in our special fields.

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**Mass Flow Meters**  
**Batching Systems**  
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Our products can be found in virtually every type of process operation, all over the world.

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We have a continuous R&D of new products at our main office in Stockholm, Sweden.

We work with a well established network of representatives, material handling experts who can provide engineering, support and service.

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