

Introduction – Conveyor Scale Weigh Frame



PROCESS AUTOMATION
Industrial Process Measuring & Control Equipment

Process Automation manufactures a variety of conveyor belt scales in acknowledgement of our customers varied requirements. The Scale Models differ primarily in the weigh bridge designs.



Electro Mechanical Weigh Frames

The weigh bridges available for Electro-mechanical (EM) Scales vary, not only in their length (number of weighing idlers), but also on their technology (principle of operation).

EM conveyor belt scales may be classed into 3 categories depending on their principle of operation. They are also available in either **Standard** or **Counter-Balanced** form viz:-

Standard Design

- Approach type.
- Approach-Retreat type.
- Floating type.

Counter-Balanced Design

- Approach type.
- Approach-Retreat type.
- Floating type.

Under Laboratory conditions, the performance of the different weigh bridge models will be almost identical. However, the “in-situ” performance will depend not only on the weigh bridge employed but also (mostly) on the application into which it is installed. Our computer-aided analysis of the application(s), allows us to recommend the scale model best suited to meet clients performance requirements for the particular application.

It is also not uncommon that either:

- The Accuracy requirements may change over time (what was initially an unimportant measurement, suddenly becomes more important etc), or;
- The Application may be different to that initially envisaged (often only after installation of a conveyor scale, are the actual throughput conditions known. These could be dramatically different to the original plant design or envisaged operating conditions). Alternatively, the material characteristics may change with time resulting in changes to the plant operating conditions, which affect the weighing application, etc.

To compensate for this fact, we have designed many of our EM weigh bridges to allow for an upgrade to a higher performance model. This protects the client's initial investment by not having to re-purchase a new weighing system, should the weighing conditions/requirements change.

All our scale models utilise state of the art sensors with practically no error. The measurable error is introduced by the application alone. The accuracy of the **installed** scale therefore is dependent on the *Application* and the *Calibration facilities* available on site.

The correct choice of scale model (weigh bridge design) depends on:-

- The application (conveyor etc).
- The accuracy and maintenance requirements.
- Calibration facilities.

For *Certified* installations, our Accuweigh® One, Accuweigh® Two, Accuweigh® Four or Accuweigh® Six Scales meet the strict South African Department of Metrology “Legal for Trade” requirements.

Non-contacting GAMMA Conveyor Scales

The Gamma belt scale is ideal for applications requiring low maintenance, plant control or where available space for installation is limited.

Being non-contacting, these scales are unaffected by wind, belt tension, vibration, idler condition, conveyor structure rigidity, conveyor length etc.

Installation of these scales is extremely simple, requiring very little space and consequently cost of installation is low. On approved installations, in-accuracies in the order of 1% to 2% of Calibrated Range are possible for extended periods of time with little or no maintenance.

The effects of non-linear absorption and isotope decay are fully compensated for in the transmitter electronics (UNIPRO®), thereby removing the only routine adjustment normally required.

Spec Sheet

Process Automation manufactures a variety of belt scales in acknowledgement of our customers (applications) varied requirements. The Scale Models differ primarily in the weigh bridge designs. These weigh bridges vary, not only in their length (number of weighing idlers), but also on their technology (principle of operation).

Item number one	x					
Item number one		x		x	x	x
Item number one		x				
Item number one					x	
Item number one	x				x	x
Item number one		x	x	x	x	x
Item number one			x		x	x
Item number one	x			x		
Item number one	x	x			x	x
Item number one		x	x			
Item number one	x				x	x
Item number one	x	x	x	x	x	
Item number one	x	x				x
Item number one					x	x
Item number one	x			x		x
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Item number one	x	x	x	x		x
Item number one					x	
Item number one	x			x		x
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Item number one	x	x	x			