

Glossary of Terms

- Aerated** - A condition whereby a dry material entraps air and can cause the material to “flood” or “flush” through the feeder. Often caused when the material is allowed to free fall or is pneumatically transferred.
- Agitator** - A device used to promote the flow of materials inside a hopper. Usually installed above the metering screw in volumetric and loss-in-weight feeders to prevent bridging and rat-holing.
- Angle of Repose** - The angle created between a horizontal surface and the sloping line of a pile of material, when it is poured onto the horizontal surface (usually tested by pouring material through a funnel) – see also Surcharge angle.
- Auger** - A device for delivering material out of a volumetric or loss-in-weight screw feeder (also see metering screw).
- Belt Weigher** - See “Conveyor Belt Scale”.
- Bridging** - A condition whereby material “arches” over a hopper outlet and material stops flowing.
- Bulk Density** - The weight of material for a given volume. Usually expressed in terms of kg/litre, kg/m³ or lbs/ft³.
- Calibration Chain** - A device which consists of one or more strands of roller chain which is restrained on a belt above the weighing system. The belt is run and the chain simulates material loading. The weigh system can be then calibrated.
- Capacity (Rate)** - The maximum throughput of a feeder, or conveyor, expressed volumetrically (m³/hour), or mass (kg/min or kg/hour).
- Capacity (Volume)** - The capacity of a hopper expressed in litres, m³ or ft³.
- Compaction** - A condition whereby material compresses or hardens when under load. Usually associated with fine cohesive powders.
- Conveyor Belt Scale** - A device which is installed into a conveyor to measure the mass rate and mass total passing over the conveyor. Also known as “Belt Weighers” and “Weightometers”.
- Idler** - A device which consists of one or more rolls which supports the belt on a conveyor.
- Integrator** - An electronic device for integrating belt loading and belt speed signals to produce mass rate and mass total readings.
- Load Cell** - A device which converts mechanical load or force into an electrical signal. Capacities range from 1kg to 500 tonne.

- Loss-In-Weight Feeder (Batching)** - A device which discharges material based on weight. Discharges material until the setpoint is achieved.
- Loss-In-Weight Feeder (Continuous)** - A device which discharges material based on weight loss over a given time. The feeder compares the weight loss per second/minute and compares it to the required setpoint. The controller automatically adjusts the feeder speed to increase or decrease the output.
- Lump Size** - The physical size of the material particles to be fed i.e. length x width x height.
- Refill** - On loss-in-weight-feeders, the hopper will need to be refilled when material reaches a low level, usually by an overhead hopper or screw conveyor.
- Stringers** - A term which describes the conveyor structure that supports the idlers and belt on a conveyor.
- Surcharge Angle** - Similar to the Angle of Repose, however measured on a moving horizontal conveyor with a belt speed of typically 90 metres/min.
- Tacho** - Short for tacho generator. Originally used as a belt speed sensor for belt scales and weigh belt feeders. The term is still used, however they have been replaced by digital encoders.
- Troughing Angle** - Refers to the angle of the side rolls on a conveyor idler. Typical angles are 20°, 30°, 35° and 45°.
- Turndown Ratio** - The ratio between the maximum and minimum throughputs possible for a particular feeder. Typically expressed as a ratio like 5:1 or 10:1.
- Volumetric Feeder** - A device for metering out material by means of screw, vibration or belt. Not supplied with a weighing system, and output is varied by use of a variable speed drive controller.
- Weigh Belt Feeder** - A device which consists of a conveyor with an in-built weighing system, which measures and controls the mass rate of material passing over it. Rate is controlled by varying the belt speed.
- Weigh Conveyor** - A device which consists of a conveyor with an in-built weighing system, which measures the mass rate of material passing over it. Belt speed is constant.
- Weighframe** - The mechanical component of a Belt Scale which is installed into the conveyor and supports the idler(s) and belt.
- Weightometer** - See "Conveyor Belt Scale".