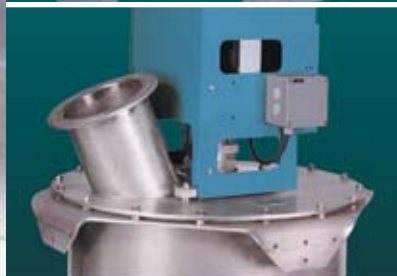


WEIGHING & FEEDING PRODUCTS



schlenkprocess





THE MOST COMPREHENSIVE RANGE OF INDUSTRIAL WEIGHING AND FEEDING SOLUTIONS

Schenck Process is a leading supplier of superior, innovative industrial weighing and feeding products and systems supported around the world. Our application know-how, dedication to improving your operation with advanced equipment solutions and processes, and industry experienced technicians are unmatched.

Schenck Process prides itself as an industry leader that continues to set higher performance standards. Whichever system you choose, Schenck Process equipment provides unparalleled reliability and accuracy, advanced technology and economical solutions.

Your total satisfaction is our highest priority.

SERVING A WIDE RANGE OF INDUSTRIES INCLUDING:

- CEMENT
- AGGREGATE
- GYPSUM
- STEEL
- POWER GENERATION

SOLIDS FLOW METERS

Using impact plate, measuring chute and Coriolis technologies, Schenck Process manufactures a comprehensive family of solids flow meters. Working with Schenck Process application engineers, customers have the ability to choose the technology, performance level and price that's best for their particular needs.

MULTICOR® K SOLIDS FLOW METER

The Multicor® K is a pulverized coal feeding system specially designed for economical and reliable firing of rotary kilns.

Using highly accurate Coriolis technology, the Multicor® K system employs a matched Multicell unit, which features a large inlet section and integrated agitator. This configuration provides the optimal solution for stable, homogenous material flow in the prebin. Because there is no aeration, air pockets which create pulsations or unstable conditions in your weighing system are minimized.

Schenck Process' superior coal dust feeding system offers economic kiln operation and high clinker quality based on stable temperatures and minimized excess air. The system can reduce fuel consumption, extend brick life and assure that SO₂, NO_x and CO do not exceed limit values.



MULTICOR® S SOLIDS FLOW METER

Employing the Coriolis principle, the Multicor® S Series of solids flow meters are accurate, compact, reliable and ideal for feeding, measuring and batching applications involving free to moderate flowing dry materials. Models are available with feed rates up to 10,500 ft³ per hour and accuracies of ±0.5% are achievable when feeding over 2 metric tons per hour.

The motor is directly coupled to the rotor's drive shaft using an in-line reducer to minimize vibration for accurate measurements. Specially designed vanes maximize the material flow rate through the rotor using the same technology Schenck Process applies when balancing turbines. All product contact parts are stainless steel. Maximum material temperature is 266° F (130° C).



MULTICOR® S800-R SOLIDS FLOW METER

As part of the Multicor® S Series of solids flow meters, the S800-R can achieve feed rates up to 800 cubic meters per hour or 600 tons per hour.

The compact, space efficient metering system has the ability to handle material temperatures up to 212° F (100° C), which makes it a favorite of cement producers worldwide. Accuracies of ±1% of actual feed rate are achievable when metering over 120 metric tons per hour.

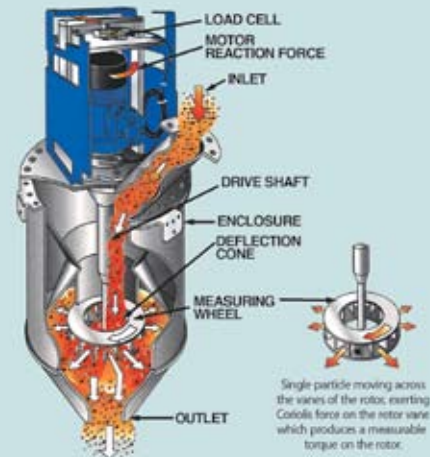


THE CORIOLIS PRINCIPLE

Schenck Process' Multicor® solids flow meter line uses the science of particle acceleration and its resultant forces to measure flow rate and total weight at accuracies of +/- 0.5%. Space efficiency and overall reliability make Multicor® an ideal choice for feeding, measuring and batching applications involving reasonably free-flowing dry materials.

The Multicor® consists of a partitioned measuring wheel, mounted on a drive shaft inside a central dust tight housing. The drive shaft is driven by an electric motor mounted outside the Multicor's housing. Material enters the unit through an off-center inlet and discharges through a center outlet below the measuring wheel.

In operation, the measuring wheel rotates at a constant speed. Material entering the unit flows into the top of the measuring wheel and is deflected outward in a radial direction creating a "Coriolis force." The Multicor® sees this force as a change in torque which is detected by a strain-gauge load cell. The output of the load cell is electronically processed to produce flow rate and total weight values at accuracies of +/- 0.5%. Best of all, unlike other flow meters on the market, Multicor's performance is not affected by material density, friction or in-feed drop height.

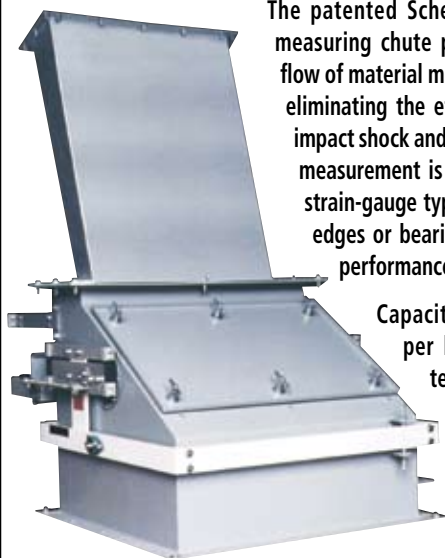


DLM SOLIDS FLOW METER

The Schenck Process DLM Solids Flow Meter is well suited for applications requiring reliable, continuous weight measurement of fine granular and pulverized materials. The equipment is ideal for controlling containment of dust and requires minimal installation space.

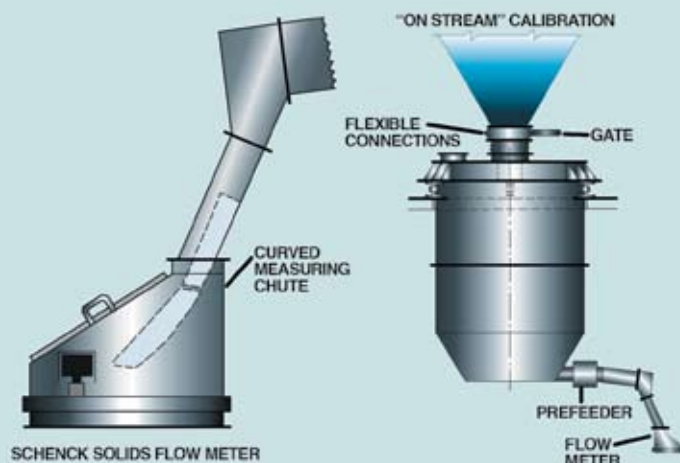
The patented Schenck Process guide and measuring chute provides an unrestricted flow of material minimizing turbulence, thus eliminating the effects of free-fall height, impact shock and friction forces. True force measurement is delivered to a precision, strain-gauge type load cell without knife edges or bearings assuring trouble-free performance.

Capacities of up to 32,400 ft³ per hour. Handles material temperatures up to 500° F (260° C). Higher temperature designs are available.



THE DEFLECTION CHUTE MEASURING PRINCIPLE

The deflection chute measuring system used in Schenck Process' DLM Solids Flow Meter is also based on reactive force, but a curved measuring chute is used in place of an impact plate. As a result, impact or shock is replaced by radial acceleration and chute deflection that a load cell detects. This signal is then electronically processed to produce flow rate and total weight values at accuracies generally better than +/- 2% and with repeatability of 0.5%.



MULTISTREAM B-80 SOLIDS FLOW METER

The Multistream B-80 Solids Flow Meter is an enclosed, in-line system for continuous measurement of flow rates and totalized amounts.

With flow rates up to 100 t/h or max. 80 m³/h, these measuring systems can be used for flow rate and consumption measurement, totalization, and batching of pulverized to granular materials with a grain size of up to 30 mm.

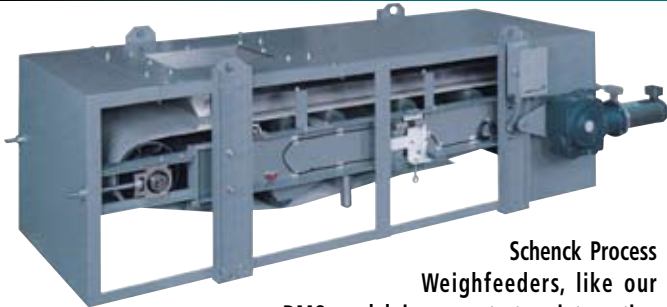


The Multistream B-80 is a compact design. There's no loss of headroom due to additional chutes. Weighing electronics can be easily accommodated in the box which is integrated in the measuring system, or outside the measuring system as desired. The housing is dust-tight and constructed of stainless steel.

WEIGHBELT FEEDERS

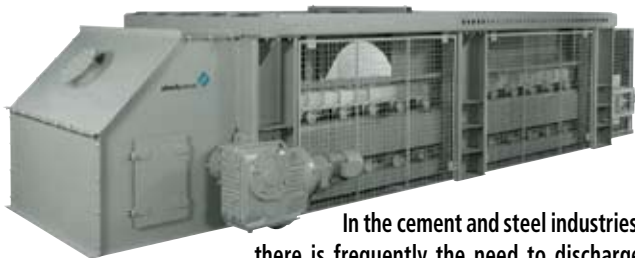
Schenck Process Weighbelt Feeders are ideal for a variety of applications including the feeding of abrasive materials that may damage other types of feeders, materials with large particles, free-flowing materials, applications where headroom is limited, metering materials for totalization, and applications requiring a wide range of feed rates.

DMO WEIGHFEEDERS



Schenck Process Weighfeeders, like our DMO model, incorporate true integration of conveying, weighing and control functions. A weigh idler senses the material weight while the speed sensor measures the speed of the feeder belt. The instrumentation multiplies the weight and speed producing a true rate signal which is compared to a set-point or demand. Any deviation from the set-point results in a correction signal from the controller. Increasing or decreasing the variable speed belt drive maintains the demand rate.

APRON WEIGHFEEDERS



In the cement and steel industries, there is frequently the need to discharge bulk solids that are difficult to extract, such as marl, clay, gypsum, trass or sludge from bins, and to feed them into a production process in a controlled manner. Schenck Process Apron Weighfeeders are the ideal solution.

MULTIDOS WEIGHFEEDERS



SCHENCK Multidos Weighfeeders are suitable for the harshest demands of industrial applications such as rock, sand and gravel processing. They feature Mechatronic design with integrated electronics.

FEEDERS

The revolutionary MECHATRON® family of feeders not only offers a superior feeder design, but also brings automation features that drastically reduce capital investment and installation costs.

MECHATRON® feeders feature "Mechatronics," a design philosophy used to describe the total integration of mechanics and electronics. Motors and all control requirements are integrated and prewired in the feeder so that commissioning is accomplished by simply bringing power and communications to the unit.

Use the MECHATRON® feeder together with our revolutionary DISOCONT® control electronics. Integrating your bulk solids metering process into your plant's supervisory control system becomes easier and more cost-efficient than you ever imagined.

"HC" SERIES CONI-FLEX™ VOLUMETRIC & GRAVIMETRIC MECHATRON® FEEDERS

The "HC" Series Volumetric and Gravimetric Feeders are high-range units that feature cast aluminum and stainless steel frames with Coni-Flex™ flexible internal hoppers. Disassembly, cleaning, reconfiguring, or servicing of the feed screw, motor(s) and the internal feed hopper are all easily accomplished from the non-process side. The units feature conical cornerless feed hoppers (patent pending). Theoretical feed rates from 3 to 1,137 ft³ per hour (8 to 32,160 liters).



The "HC" Series Gravimetric feeder is totally integrated and prewired for the DISOCONT® gravimetric control packages. Profibus, DeviceNet, Modbus, or Ethernet fieldbus communications are optionally available.

Besides high-range feeders, Schenck Process offers a comprehensive family of MECHATRON® Feeders including the:

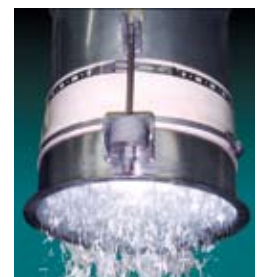
- "MS" Series Coni-Steel™ MECHATRON® Feeder
Mid-range feeder. All stainless steel. Internal agitator.
- "MC" Series Coni-Flex™ MECHATRON® Feeder
Mid-range feeder. Coni-Flex™ flexible hopper.
- "LS" Series Coni-Steel™ MECHATRON® Feeder
Low-range feeder. All stainless. With or without internal agitator.
- "LC" Series Coni-Flex™ MECHATRON® Feeder
Low-range feeder. Coni-Flex™ flexible hopper.

SOLIDSFLOW® FIBROUS MATERIAL FEEDER

The unpredictable flow characteristics of chopped fibrous materials make it difficult for typical feeders to provide accuracy and uniform flow.

SolidsFlow® Fibrous Material Feeders eliminate many of these problems, resulting in more uniform flow and greater accuracy.

The feeder features a one-piece feed tray that is designed to accommodate the material's flow characteristics. This unique design uses the natural matting effect of fibrous materials to seal the material within the feed tray, preventing flow when the drive is turned off. No spillage. No run-on. When the unit is turned on, high frequency, horizontal motion applied to the feed tray produces a consistent, uniform flow. No flow-aid devices are needed.



SCALES

When it comes to weighing systems, Schenck Process has been a worldwide leader for decades in providing durable, dependable, and economical solutions. Our wide range of scales are designed for a variety of industries and processes.

BEMP™ BELT SCALES & CONTROLS

The Schenck Process BEMP™ Belt Scale with Intecont Plus control gives you the capability to monitor the output in each of your aggregate plants using a supplied Ethernet card and any Internet connection. This web-based monitoring can be done throughout the globe. Schenck Process can easily custom program your Ethernet cards to match your existing system. Measure throughput, totalize material, and view the results as they are happening using web pages. Continuous flow rates up to 15,000 tons/hour. Durable and easy to install. Can be used on conveyors with 18" to 60" wide CEMA idlers.



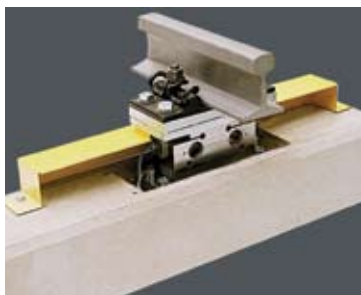
MULTIRAIL® RAILCAR WEIGHING SYSTEMS

MULTIRAIL® is a dynamic system designed for the weighing of railcars with solid or liquid loads. The precise MULTIRAIL® offers train and track operator's accurate weighing data, which allows them to avoid the potential hazards of an overloaded or unequally loaded railcar.

The MULTIRAIL® is manufactured with two precision weighbeams that are integrated into a concrete weighing tie and bolted directly to the rib plate above it. This allows all forces and torques from the railcar to be transmitted directly via the weighbeams. Weight values and associated measuring data are collected and processed through the use of weighing electronics and customized PC systems.

Basic functions of the MULTIRAIL® include:

- The acquisition and output of railcar weights.
- Monitoring of railcar weights.
- Printout and storage of weighing data.



CRANE SCALES

The Schenck Process Radial Force Sensor DRA weighing system is integrated into cranes used in the transport of pig irons and steel. Positioned within the spreader beam the sensor provides the following important functions for steel production:

- After tapping from the converter and deslagging, the weighing installation transmits the precise crude steel net weight to the process control system. This input provides an optimal basis to calculate the amount of alloying materials to be added during the secondary metallurgy process.
- The accurate weighing enables the plant to add the least amount of alloys possible without degrading the final composition of the steel.
- The scale detects and indicates unequal loading between the left and right sides of the spreader beam.

Other benefits of the Radial Force Sensor DRA are:

- Stability of the crane remains untouched.
- The weighing system is completely bolted into the structure and is therefore maintenance free.
- Scale can easily be integrated into the existing installations.
- Accuracy up to $\pm 0.1\%$ of full scale.



WEIGHDISC

The Schenck Process Weighdisc WDI 25 – 200 t was built to provide accurate weighing of ladle turrets and ferries. The weighing system inside the turret structure fulfills the following important functions:

- Long term reliable control of the level of liquid steel inside the ladle.
- Precise mass flow balancing of the steel output at the passage between liquid and solid steel.

Other advantages of the WDI 25 – 200 t include:

- Easy installation.
- Can handle operating temperatures up to 257° F (125° C).
- Load limits up to 200 tons.
- Extremely low headroom and weight.
- Accuracy up to $\pm 0.3\%$ of full scale.



WEIGHBEAMS

The Schenck Process Weighbeam DWB 40 – 200 t provides the precise net weight of each ladle, which allows steel manufacturers to do the following:

- Supervise and control the whole steel making process with precise knowledge of the amounts and locations of pig iron and steel within the process.
- Calculate the most efficient amounts of scrap and alloys to be used.
- Reduce spillage during the filling and pouring process.

Additionally, the weighbeams are:

- Able to handle loads up to 200 tons.
- Maintenance free – No additional bumpers or lift off protection.
- Compact, which reduces shunt force influences from dust and slag.
- Capable of handling temperatures up to 302°F (150°C).

Accurate – Total weight of the ladle to be measured with an accuracy up to $\pm 0.1\%$ of full scale.



BIN WEIGHING SYSTEMS

RING TORSION LOAD CELLS

High temperatures, contamination, heavy abrasive materials, water jets, use in hazardous areas – these are the environmental conditions our weighing components are built to stand up to. Schenck Process Ring-Torsion Load Cells excel at reliability and ultimate accuracy in certified applications. Your application determines the solution.



BULK BAG DISCHARGE SYSTEMS

SACMASTER®

For discharging bulk bag supplied material, SacMaster® Bulk Bag Discharge Systems are the ideal solution for a variety of industries. Optimum design provides for easy integration with volumetric and gravimetric feeders to create a complete and accurate system to meter bulk bag material.

SacMaster® Bulk Bag Discharge Systems offer bag tensioning, hoist or fork lift loading, height adjustability and patented "Posi-Flow" adaptive bag agitation for superior material movement. Dust containment system available.

SacMaster® offers three different modular components to meet the needs of your specific application. Fork-Truck Loading, Bulk Bag Positioning Guide for Overhead Hoist Loading, or Dedicated Hoist Loading.



RETRO-FITS

SCHENCK PROCESS UNIVERSAL WEIGHFEEDER RETRO-FIT UPGRADE KITS

Schenck Process Universal Weighfeeder Retro-Fit Upgrade Kits can economically convert your old weighfeeders into modern, state-of-the-art performing systems with superior Schenck Process load cell assemblies, motors, drives, speed sensors, and controls. Convert your existing Schenck Process or most any other brand of weighfeeder, to the highly productive unit you require for today's processing needs. Improve accuracy, reduce maintenance and help modernize your plant.



CONTROLLERS

Schenck Process offers a complete range of electronic control packages for your specific application. From basic integrator displays that provide process managers with continuous performance information, to the most advanced measurement, control and supervisory systems, whatever your control needs, Schenck Process has the solution.

INTECONT MS WEIGHING ELECTRONICS

Basic compact weighing electronics for the BEMPT™ Belt Scale. The unit features a NEMA 4 enclosure, 2 line alpha-numeric display, (3) internal totalizers, 4-20 mA output and operator-friendly, menu driven operation.



INTECONT PLUS FOR FEEDING SYSTEMS

Compact measuring, control and supervisory system for continuous feeding applications. Offers enhanced operating reliability through diagnostics and self-testing functions. Application specific functionality, integrated display and control panel, high operating convenience, and automatic calibration programs.



INTECONT PLUS FOR MEASURING SYSTEMS

Compact weighing electronics for continuous measuring systems. Offers comprehensive basic functionality with application specific features, enhanced operating reliability through diagnostics and self-testing functions, integrated display and control panel, high operating convenience and automatic calibration programs.



DISOCONT® MEASUREMENT, CONTROL & SUPERVISORY SYSTEM

Revolutionary modular electronic control system comes fully integrated and prewired, substantially reducing capital investment and installation costs. Simply apply power and communications. Using Profibus, Modbus, DeviceNet, or Ethernet, DISOCONT® integrates easily into your existing Allen-Bradley, TI, Siemens and GE PLCs to offer high end control. Open communications structure and flexibility. Modular design means you only buy what you need.



DG-2000™

The DG-2000™ Group Controller monitors up to 16 weighfeeders, solids flow meters, gravimetric screw feeders or pumps. Alarms, feed rates, hopper levels, material usage and operating status are displayed for each device.



ALTERNATIVE FUEL FEEDING SYSTEMS

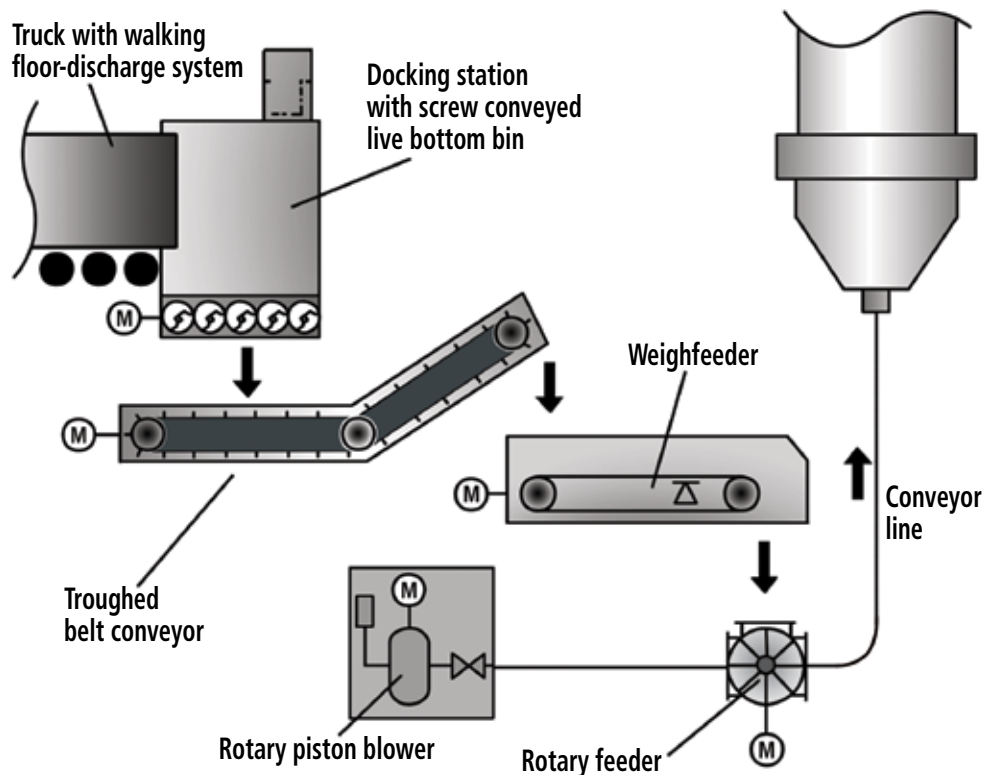
Schenck Process' alternative fuel feeding systems handle waste materials, including shredded plastics, tires, saw dust, paper, cardboard, and others for supplying an economical and environmentally friendly supplement to cement manufacturers kiln feed supply. The system consists of a docking station with live bottom bin for semi-trailers, troughed belt conveyor, weighfeeder, blow-through rotary feeder, rotary piston blower, pneumatic conveying line, measuring, control, and supervisory electronics for continuous operation.

Typical Design Data & Material Properties

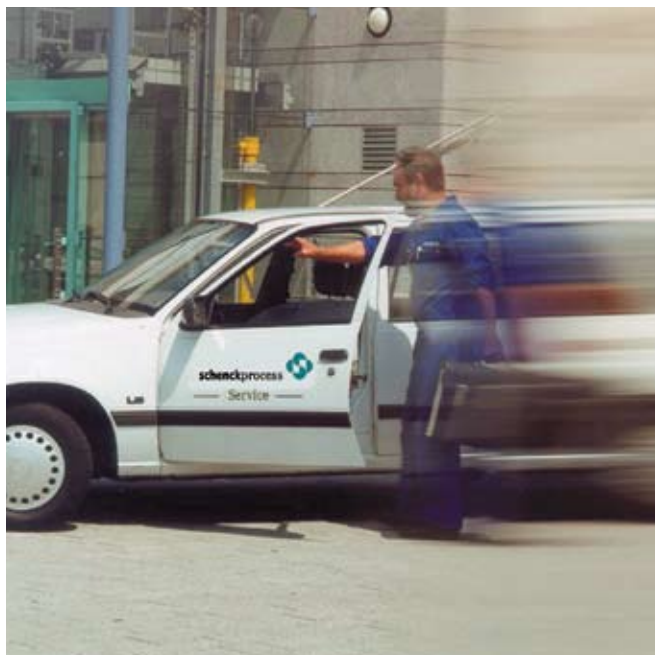
- Feed rate: 0.25 – 5 t/h
- Accuracy: $\pm 1\%$ within a range of 1:20
- Material: Secondary fuel made of commercial waste
- Grain size: 0 – 50 mm (<1% < 100 mm)
- Bulk density: 0.1 – 0.8 t/m³
- Moisture: Maximum 10%
- Flow properties: Slightly sluggish, tending to bridge
- Pneumatic conveying distance to burner: Approximately 50 – 100 m



COMPREHENSIVE TURNKEY AFF SYSTEMS



SCENCK PROCESS WEIGHING & FEEDING EQUIPMENT IS BACKED BY COMPREHENSIVE SUPPORT



AFTER-SALES SERVICE

Total customer satisfaction on every Schenck Process product you purchase is our top priority. All Schenck Process equipment is quality engineered for sound design, optimum performance, accuracy and reliability to assure continuous, smooth operation. We offer you extensive technical support ranging from repairs and retro-fitting, to performance improvement. You can count on our knowledgeable service technicians to provide the experience and expertise you require for your particular application.

Call (800) 558-0184, Monday through Friday, 8 a.m. to 5 p.m. C.S.T. 24-hour emergency support available.

COMMISSIONING

Schenck Process Supervised Factory Start-Up Program is the risk-free solution to your equipment start-up requirements. Contracting a Schenck Process authorized service technician guarantees a smooth, quick start-up allowing you to begin use of your equipment on-time, with minimum interruption to your process. Our technicians are highly trained professionals who bring with them a wealth of product experience. They can identify possible problems before they impact the start-up process.

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EXPERIENCE YOU CAN COUNT ON.**

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we make processes work