

**High capacity output and low emissions.  
Reliable solutions for power generation.**



Schenck Process – Innovative solutions for efficient  
and environmentally friendly power generation.

# Schenck Process Group – Your Partner Worldwide



## **Acting locally to support your needs the Schenck Process Group is working where you are.**

With a global network of sites and competent partners, the name Schenck Process is synonymous throughout the world with process expertise and well-engineered measuring technology for industrial weighing, conveying, feeding, screening and automation.

Our key skills include planning processes, feeding bulk materials, controlling flows of material, recording flows of goods, weighing goods and automating transport processes.

## **Members of the Schenck Process Group are:**

schcnkprocess 

stock   
schcnkprocess group

fairfield   
schcnkprocess group

clydeprocess   
schcnkprocess group

pentec   
schcnkprocess group

schcnkAccuRate 

redler   
schcnkprocess group

screenex   
schcnkprocess group

macprocess   
schcnkprocess group



Process  
Advanced  
Service  
System

# PASS

## The right solution for your requirements.

Customized to meet your filtration requirements, our comprehensive **Process Advanced Service System** provides you with the best service.

Are you looking for individual, perfect-fit service solutions? Then our modular service system PASS is the ticket:

- ❖ Choose from a range of service products
- ❖ Benefit from the continuous development of our service modules
- ❖ We will customize our standard modules to meet your exact requirements
- ❖ Enjoy maximum flexibility and security

Our modular concept covers the entire service spectrum, from simple inspections through to full service.

Interested? Then find out more about the individual components! For more information on PASS, contact at [service@schenckprocess.com](mailto:service@schenckprocess.com).

**Our PASS service levels provide the following:**

### **PASS** Full Service

- ❖ Optimization of installation availability
- ❖ Calculable costs
- ❖ Increased process efficiency

### **PASS** Repair

- ❖ Downtime minimisation
- ❖ Short response times
- ❖ Avoidance of high downtime costs

### **PASS** Check

- ❖ Increased operational reliability
- ❖ Extended service life
- ❖ Maintenance of value

### **PASS** Basic

- ❖ Reliable assembly
- ❖ Needs-oriented training
- ❖ Supply of high-quality spare parts

# Cut Energy Costs through Biomass and Alternative Fuels

Reduced environmental impact – reduced operational costs



Saving energy costs is a top priority. The solution is to use biomass and alternative fuels for boilers such as classic and alternative fuels (e.g. shredded plastic and production wastes, used tires, meat and bone meal and processed domestic waste).

The problem with this is that these very different materials pose extremely difficult challenges regarding the design of the feeding and conveying systems.

The Schenck Process solution saves money and staff time, is extremely economical, uses variable concepts and does not require either structural changes or reserve silos.

**Picture shows  
Alternative Fuel  
System by  
Schenck Process  
Group.**

### **More eco-friendly**

CO<sub>2</sub>-neutral power generation thanks to optimum conveying and feeding of biomass

### **Cleaner**

Schenck Process systems improve flue gas purification

### **More effective**

No more than required – thanks to gravimetric feeding technology



### **More robust**

Bulk material expertise and perfect feeding technology ensure robust processes

### **More precise**

Thanks to systems tailored precisely to a wide range of fuel qualities

### **Wide spectrum**

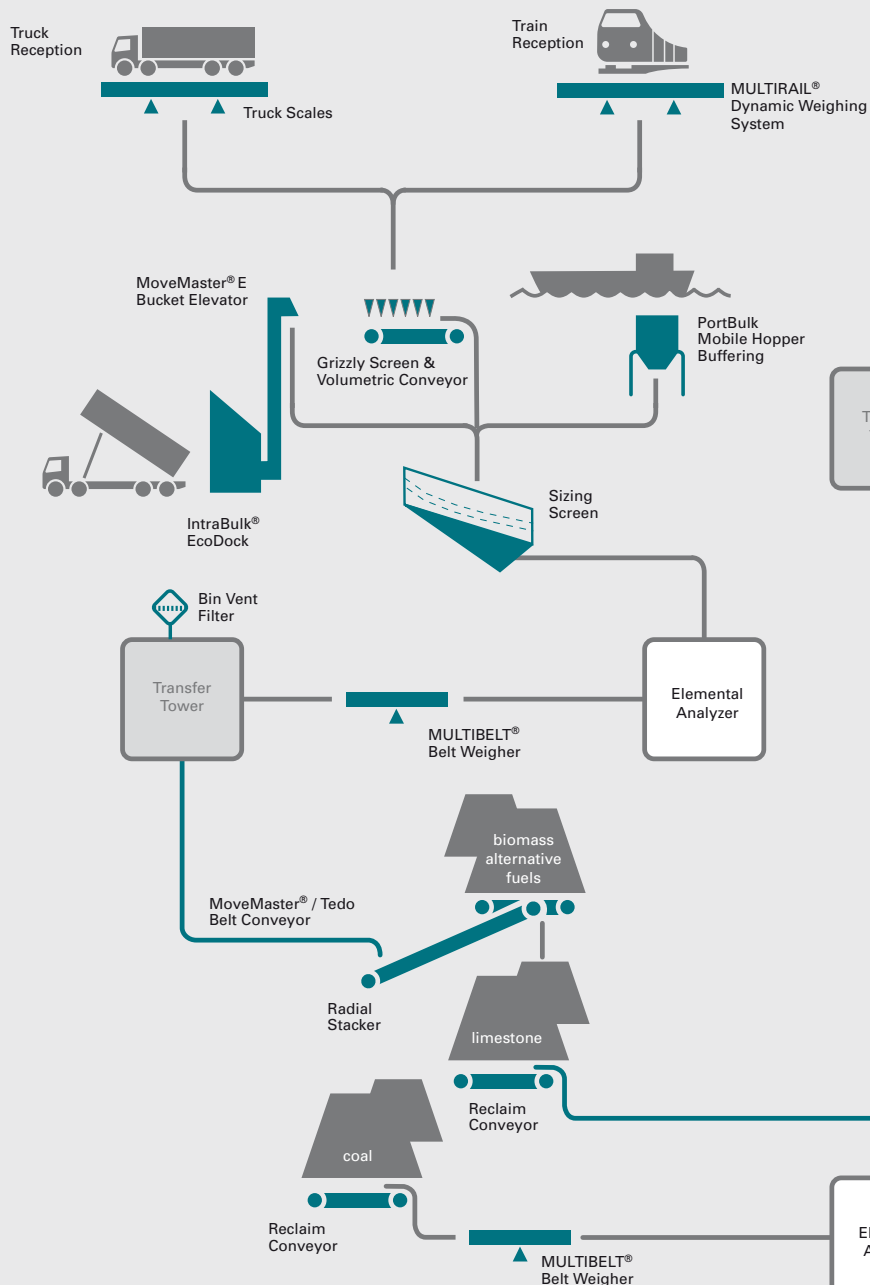
Systems for delivering, conveying, storing and removing all bulk materials

## Market Leading Technology and Capabilities

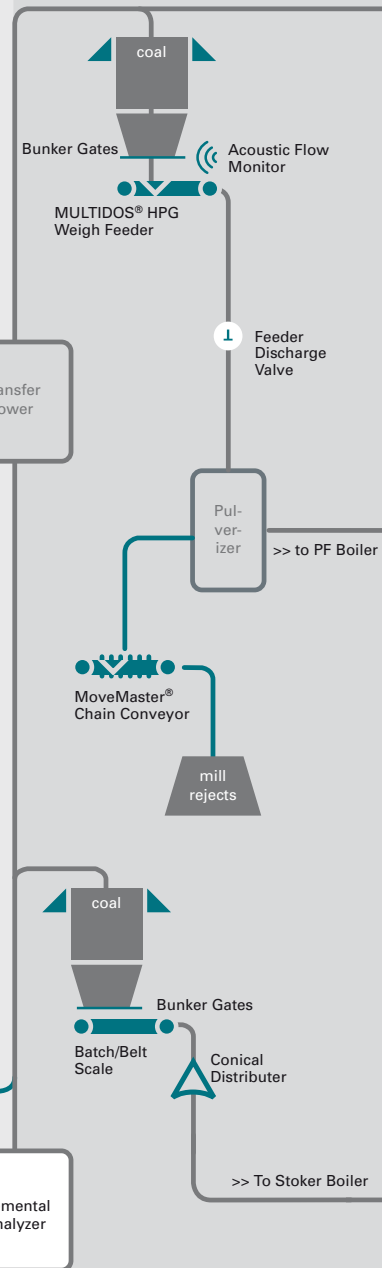
With the most trusted brands in the industry, Schenck Process offers a diverse range of bulk material handling systems, equipment and components to cover almost any need in the power industry. From receiving by truck, rail, or barge to stockpile and from stockpile to point of use our material handling systems convey millions of tons of raw material annually including coal, limestone, biomass and alternative fuels. Our products also are used to handle the by-products generated at the plants such as ash and

gypsum. Schenck Process material handling systems will store material in stockpiles or silos and load this material to various means of transportation such as rail, truck or barge. Schenck Process material handling solutions in the power industry offer a wide variety of conveying and feeding methods to get the job done reliably and efficiently throughout the life of the equipment.

### FUEL-YARD STORAGE & HANDLING



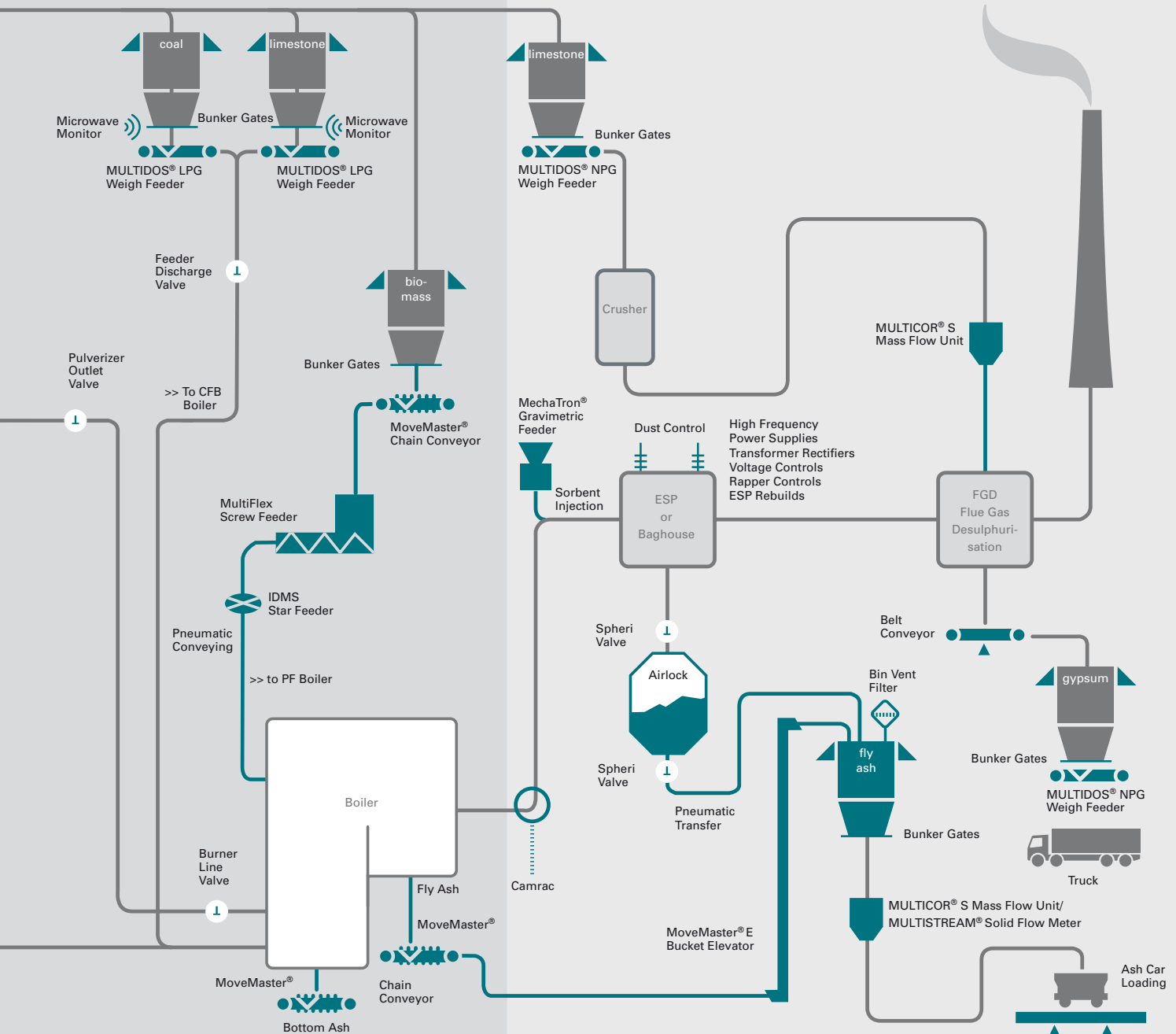
### BOILER FEEDING



No matter what your facility or boiler type, the Schenck Process Group delivers superior reliability and accuracy in raw material weighing, feeding and handling. Even with the power industry's many unique material characteristics, we've solved complex fuel delivery challenges by working in partnership with our customers. And we are committed to continuing this focus on partnerships to help companies like yours improve efficiency while increasing output and profitability.

Accurate fuel flow and the resulting improved control of NO<sub>x</sub> emissions are crucial for the modern power plant. With accurate flow management and precise weighing accountability, you'll get safe, reliable, uninterrupted material flow. And that's going to increase efficiency, eliminate downtime and keep you running smoothly. That's why Schenck Process Group's gravimetric feed systems are the most widely used, most trusted fuel feeding systems in power generation today.

### ENVIRONMENTAL ISLAND & BY-PRODUCT HANDLING



# MULTIDOS® HPG

## Gravimetric Belt Feeders



### Why the MULTIDOS® HPG Feeder?

The MULTIDOS® High Pressure Gravimetric (HPG) Feeder is the next generation in our long line of feeder models. Stock, a member of the Schenck Process Group has retained the proven gravimetric feeding technology which has been providing reliable and accurate performance in power plants since the 1950's. This dependable technology coupled with updated design elements makes the MULTIDOS® HPG feeder the prime choice for various material feeding solutions.

### Why Gravimetric?

Because of its non-homogenous nature, coal properties constantly vary due to sizing differences and the adverse impact of moisture on heating value, flow characteristics, and density. The gravimetric feeder compensates for the variation in bulk density by feeding a known weight of coal in response to a BTU demand. This ability to accurately weigh the coal on an "as-fired" basis provides significant improvement over volumetric types in terms of matching the BTU delivery by the feeder to the actual process energy required on coal fired units.

- ❖ Fuel savings through improved boiler efficiency
- ❖ Improved combustion efficiency/loss on ignition
- ❖ Stability and improved response of combustion controls
- ❖ Less NO<sub>x</sub> through better control of excess air
- ❖ Safety with NFPA 50 psi/3,5 bar body shell
- ❖ Tension roll and active tracking station maintain belt alignment
- ❖ Reversible inlet promotes mass flow even in reverse when other bunker emptying options are not practical
- ❖ Built according to NFPA, NEC, CE, and ATEX
- ❖ Rounded slot outlet hopper meets 50 psi/3,5 bar requirements and promotes improved coal flow
- ❖ All internal surfaces are sloped or rounded to avoid coal build-up; optimal for highly volatile coals



weighing

receiving

screening



→ FUEL-YARD STORAGE & HANDLING →



**MULTIRAIL®**

Train Weighing

- ❖ Dynamic railway scale for all wagon types
- ❖ Legal-for-trade accuracy
- ❖ No foundation
- ❖ No rail gap
- ❖ Fully automatic operation
- ❖ Very quick installation
- ❖ Static/dynamic platform weighbridges also available

**IntraBulk®**

Truck Unloading

- ❖ Receiving buffer hopper and apron feeder as link to the continuous process
- ❖ Suitable for various products
- ❖ Dust extraction systems
- ❖ Quick and safe operation

**Bulk Screening**

- ❖ Coal classifying or dewatering
- ❖ Long years experience based on own engineering, fabrication and service
- ❖ Wear-optimised design

conveying



storing



→ FUEL-YARD STORAGE & HANDLING →



**TEDO Conveyors**

Bulk Conveying

- ❖ Tube Belt Conveyor
- ❖ U Belt Conveyor
- ❖ Corrugated Belt Conveyor
- ❖ Smooth material handling

**MoveMaster®**

Bulk Conveying

- ❖ Horizontal transport and elevating
- ❖ Maintenance optimised design
- ❖ For various bulk materials

**Outdoor Stacking and Conveying**

- ❖ Fixed and Radial stackers
- ❖ Belt Conveyors
- ❖ Chain Conveyors

weighing



feeding



→ BOILER FEEDING



### MULTIBELT

Belt Weighing

- ❖ Precise mass flow measurement
- ❖ Standard and tailor-made design
- ❖ Accuracy up to  $\pm 0,25\%$
- ❖ Optional legal-for-trade execution

### Volumetric Feeders

- ❖ Belt or MoveMaster® chain type feeders
- ❖ Explosion pressure containment to 3.5 bar g.
- ❖ Length & sizes to suit application
- ❖ Compact designs for restricted areas.
- ❖ Capacities up to 150 t/hr

### MultiFlex

Gravimetric Screw Feeder

- ❖ Flexible screw weighfeeder in dust-tight, enclosed design
- ❖ Suitable for all kinds of alternative fuels (explosive and non-explosive)
- ❖ Designed for materials with bulk densities as low as  $0.05\text{ t/m}^3$
- ❖ High feed constancy, reliability & flexibility
- ❖ Easy maintenance

## measuring & controlling



## pneumatic conveying



## flow management



### → BOILER FEEDING



#### **DISOCONT® Tersus**

Continuous weighing electronics

- ❖ Tailored by modules as needed
- ❖ Product line for 'MechaTronic scales': a synthesis of mechanics, electrics and software
- ❖ Installation close to feeder in field enclosure or in control cabinet
- ❖ Reduced engineering planning and wiring costs
- ❖ Commissioning and diagnostics supported by graphics
- ❖ Optimal communication structures because of modular fieldbus technology
- ❖ Wireless access for service

#### **IDMS**

Blow-through rotary valve

- ❖ Compact, space-saving design while offering high power density
- ❖ High and constant fill levels thanks to large inlet cross-section and enforced emptying
- ❖ Highly abrasion-resistant wearing parts and long service life
- ❖ Reliable pneumatic conveyance thanks to constant leakage air
- ❖ Robust construction in line with German standard for industry

#### **Bunker Gates**

- ❖ Sizes to suit all bunker outlet configurations
- ❖ Round, square or rectangular inlets
- ❖ Manual or powered operation.
- ❖ Contact parts in stainless steel
- ❖ Can be capable of withstanding explosion pressures to 3.5 bar g

## air pollution controls



## → ENVIRONMENTAL ISLAND & BY-PRODUCT HANDLING →



### **Burner Line Valves**

- ❖ Isolation of fuel pipework
- ❖ Handles high velocity coal/air mixture
- ❖ Acceptance to industry standards
- ❖ Manual or pneumatic operation
- ❖ Wide range of sizes

### **ModuPower™**

- Switch Mode Power Supply for Precipitators
- ❖ Switching Mode Power Supply for Maximum Power and Efficiency
  - ❖ Liquid Cooling for Superior Reliability
  - ❖ Modular design for redundancy
  - ❖ Voltages from 46 to 120kV
  - ❖ Power – almost unlimited by adding 30kW modules

### **Precipitator Enhancement**

- ❖ Electrostatic precipitator products
- ❖ Integrated precipitator management solutions
- ❖ Transformer/Rectifier sets
- ❖ AVC voltage control
- ❖ ERC rapper control
- ❖ Windows user interface with DCS communications

air pollution controls



feeding



→ ENVIRONMENTAL ISLAND & BY-PRODUCT HANDLING



#### Air Filtration

- ❖ Lowest Emission in Industry
- ❖ Lowest Power Consumption
- ❖ Ease of Field Installation
- ❖ Lowest Maintenance Costs

#### MechaTron®

Loss-in-Weight-Feeder

- ❖ Feed system for volumetric and gravimetric bulk solids feeding
- ❖ Discharge aid with internal agitator
- ❖ Feed and extension hoppers of corrosion and acid resistant steel
- ❖ Quick and easy dismounting for cleaning and product change
- ❖ Integrated measuring, control, and supervisory electronics
- ❖ High feed accuracy and constancy, better than  $\pm 0.5\%$

#### MULTICOR® S

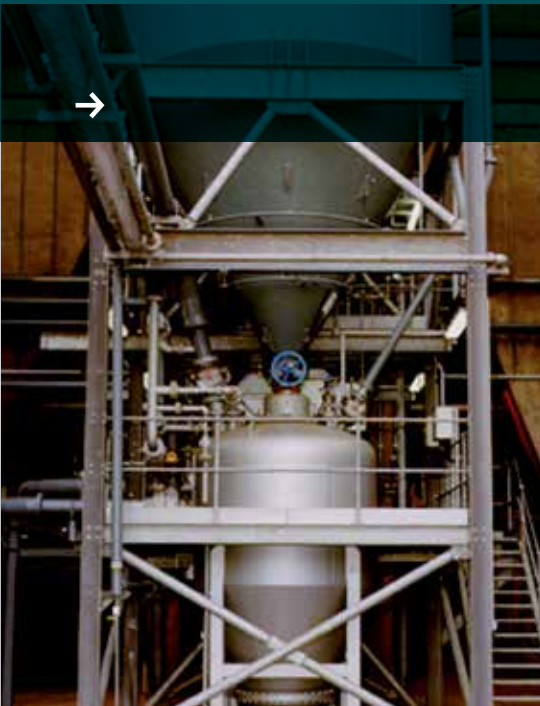
Lime Feeders

- ❖ MULTICOR® & MULTIDOS® type
- ❖ Compact design, dust tight
- ❖ Accuracy  $\pm 0.5\%$
- ❖ Easy plant integration
- ❖ Minimal wearing components

automation



→ LOGISTICS AUTOMATION



#### **Fly Ash Handling**

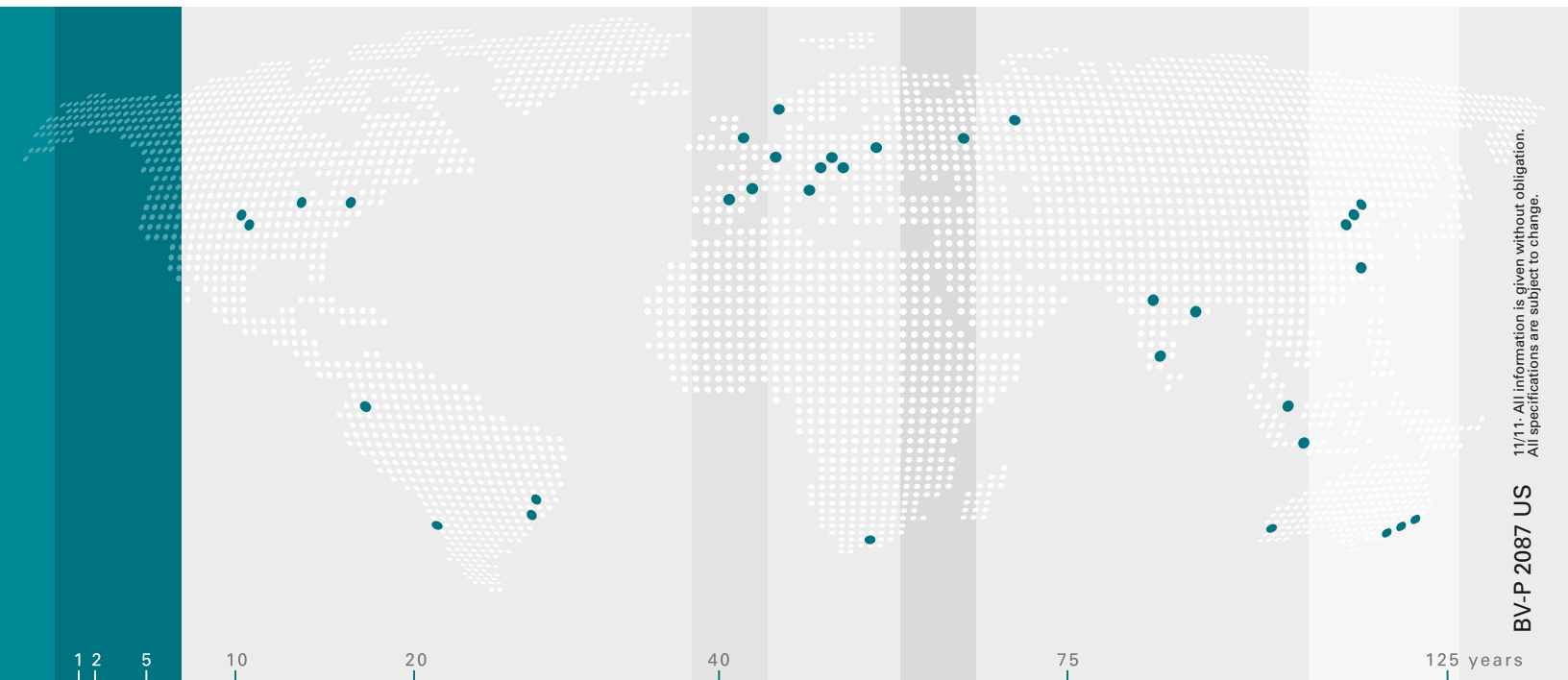
- ❖ Dense and dilute phase pneumatic transfer
- ❖ MoveMaster® conveying & elevating range
- ❖ Low power consumption
- ❖ Dust-tight construction
- ❖ Located beneath precipitators & dust collectors
- ❖ Large capacity range

#### **MULTIDOS®**

- Bulk Dosing
- ❖ Non Pressurized application
  - ❖ Dust tight operation
  - ❖ Same controls used throughout all feeder types
  - ❖ Weighing accuracy to within  $\pm 0.5\%$
  - ❖ Reduced operations and maintenance costs

#### **LOGiQ® Loading Automation**

- ❖ Logistics solution for bulk materials and cargo industry
- ❖ Automation of all loading procedures from ordering through to shipment
- ❖ Faster loading due to accurately defined processes
- ❖ Mass flow management of incoming and outgoing materials by truck, train and ship



11/11: All information is given without obligation. All specifications are subject to change.

BV-P 2087 US

The Schenck Process Group is a global market leader in weighing and feeding technology /// screening and separation systems for bulk materials /// dust collection and air filtration technology /// pneumatic and mechanical conveying solutions /// automation and diagnostic technology

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we make processes work