



- weighing
- feeding
- conveying
- filtration
- automation



Bulk Materials Handling & Storage

- ◆ Conveying
- ◆ Elevating
- ◆ Feeding
- ◆ Weighing
- ◆ Mobile Hoppers
- ◆ Silo Discharge
- ◆ Intake & Transfer
- ◆ Storage Solutions

SandPiper Train & Tram Sand Filling Solutions

Introduction

Schenck Process is a leading supplier of pneumatic conveying, pneumatic injection, dust filtration & valve solutions for a wide range of process industries. It has also adapted and applied Clyde Process technology, expertise & knowledge to power pioneering solutions globally.

Redler & Clyde Process

Dense Phase Conveying

- ◆ Enclosed conveying system reducing dust emission
- ◆ Long life robust design
- ◆ Worldwide installation history
- ◆ Long distance and high tonnage rates
- ◆ ATEX compliant designs

Dilute Phase Conveying

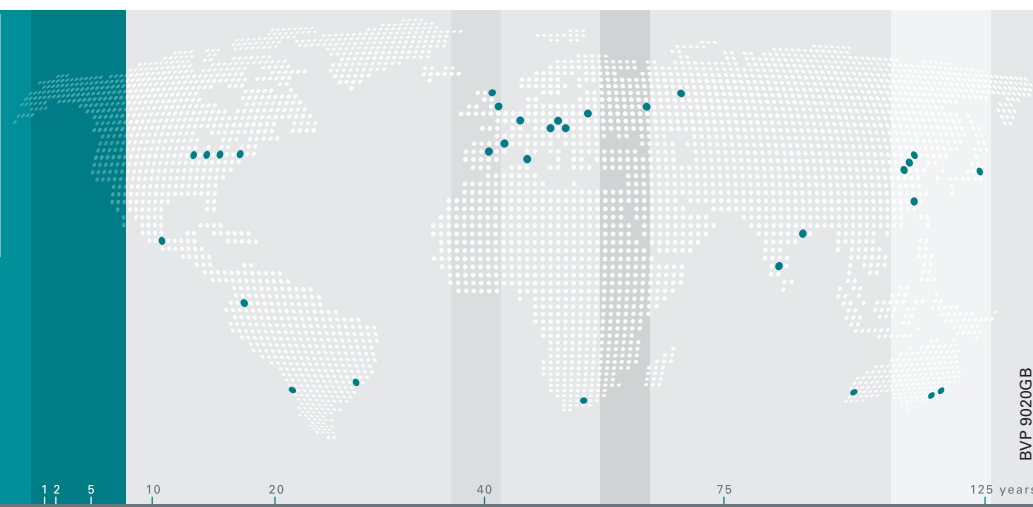
- ◆ Modular design with tool free maintenance procedures
- ◆ Minimal dust emission
- ◆ Hygienic applications
- ◆ Customised solutions available
- ◆ ATEX compliant systems

Dust Filtration

- ◆ Modular design with tool free maintenance procedures
- ◆ Energy efficient designs
- ◆ Long life robust designs
- ◆ ATEX compliant units
- ◆ Safe / good access for maintenance

Vacuum Cleaning

- ◆ Fixed and mobile cleaning systems
- ◆ Safe access for maintenance
- ◆ Long life robust designs
- ◆ Hazardous area solutions
- ◆ Single or multiple users



Our philosophy is based on...

- ◆ Continuous product development
- ◆ Best practice approach to applications
- ◆ Raising industry standards

Capabilities

- ◆ Single Machine
- ◆ Multiple Machines
- ◆ System Solutions
- ◆ Installation & Commissioning
- ◆ Plant Layout & Integration
- ◆ Engineering & Contract Management
- ◆ Professional Customer Service Approach

Industries

- ◆ Power, Coal, Steel, Cement, Mineral, Chemical, Grain Processing, Brewing/Malting, Flour/Feed, Food, Particle Board, Recycling, Railway, Ports, Waste Water Treatment

Proven Technology, Improving Your Operational Efficiency

The Schenck Process Group develops, manufactures and markets a full range of solutions, products and turnkey systems on the basis of combining process engineering expertise, reliable components and field-proven technology.

Schenck Process UK Limited
Carolina Court, Lakeside
Doncaster, South Yorkshire
DN4 5RA UK

T: +44 (0) 1302 321313
F: +44 (0) 1302 554400
enquiries@schenckprocess.co.uk
www.schenckprocess.co.uk

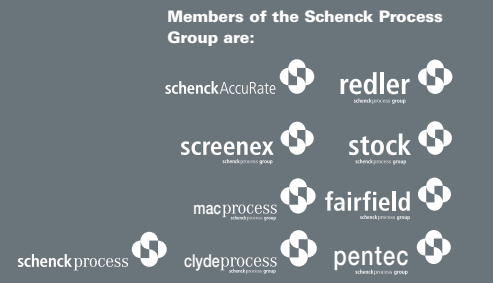
Schenck Process GmbH
Pallaswiesenstraße 100
64293 Darmstadt
Germany

T +49 61 51-15 310
F +49 61 51-15 31 11 72
sales@schenckprocess.com
www.schenckprocess.com

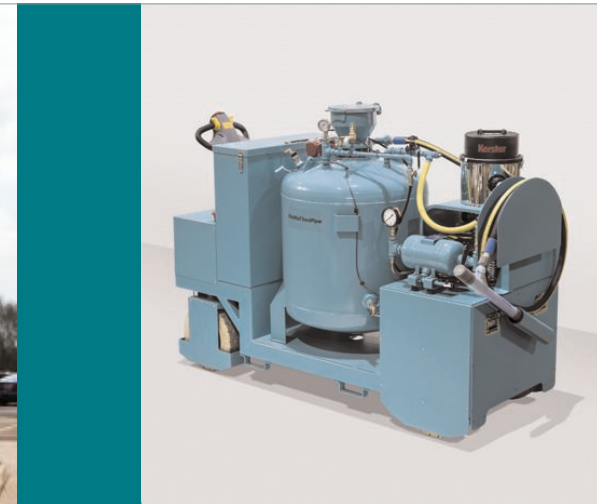


we make processes work

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Sand Handling Systems
 Schenck Process has developed both fixed and mobile Sand Handling Systems in response to the commonly recognised problems associated with sand box filling within the rail & tram industry including manual handling bags of sand & material spillage.

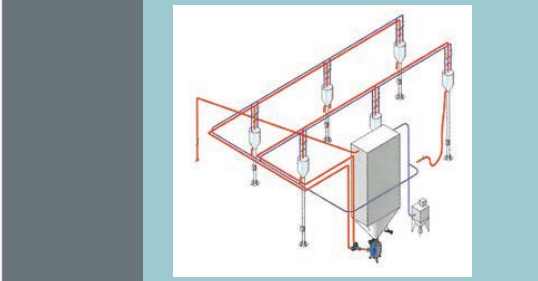
The fixed sand filling system

- Operated by a petrol pump style nozzle used for depot maintenance schemes.
- Eliminates the need for manual lifting & complies with health & safety requirements.

The mobile SandPiper Unit

- Available as a motorised driver "sit-on" type or motorised pedestrian type
- Ideal for low usage rail & tram depots.

- Both Systems Advantages:**
- Eliminates the need for manual lifting
 - No spillage or waste
 - Keeps sand in a dust & moisture free state
 - Promotes a cleaner environment
 - Complies with health & safety requirements



Road & Rail

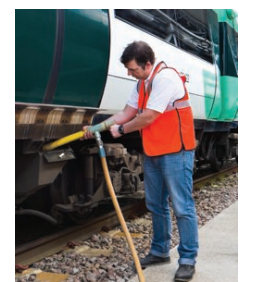
Rail & tram operators, irrespective of their location in the world are the subject of ever increasing commercial pressures for profitability, vehicle availability & reductions in operating costs, whilst ensuring complete passenger safety & satisfying the demands from regulators.

As operators strive to create services that meet these requirements it is becoming evident that efficient maintenance processes & procedures are essential to meet these needs & ensure that disruptions are minimised.



The maintenance of vehicles often involves replenishing on-board sand boxes, which are used to improve vehicle traction in slippery or wet weather conditions & can act as an aid in braking from high speeds.

However, sand handling is a commonly recognised problem within the rail & tram industry due to the time absorbed in manually handling bags of sand to fill empty sand boxes, coupled with spillages and material waste that can impact on environmental & health & safety regulations.



- Each dispensing point transfers sand into the sand box using a petrol pump style nozzle. The nozzle is placed into the sand box inlet, & the sand flow control valve opened.
- Sand is transferred under pressure with dust emission eliminated by a simple exhaust system.
- When the sand box is full the action of the sand covering the nozzle outlet automatically stops the sand flow.
- The sand flow control valve is closed before the nozzle is withdrawn & stored in the holster.



The SandPiper Mobile Sanding Unit

- SandPiper mobile sanding units come in two variations.
- There is the motorised driver "sit-on" type unit & the motorised pedestrian type where the operator walks in front of the vehicle steering the unit.
- Both units are powered by an electric motor & battery pack which are supplied as part of the vehicle & are an element of the standard features package.
- One of the SandPiper's many safety features includes a regenerative braking system to provide safe & effective braking on inclines of 1:10 & emergency braking.
- Designed to carry 300kg or 500kg.
- The "sit-on" type is designated with a "V" suffix & the pedestrian type with a "P" suffix.



The specification of the unit is as follows:

- Sand Filling method : 25kg sacks, IBC or Bulk Storage Silo (not included).
- Sand Storage Vessel : 0.20m³ (300kg of sand) and 0.33m³ (500kg of sand).
- Throughput : 10-15kg/min.
- Compressor : 24V DC 2 litres x 1.0 Kw 6Barg (including 11 litres air receiver).
- Vent Filter : 24V DC 0.3Kw.
- Sand Nozzle : 4 m of 25mm dia of heavy Duty flexible hose with non-spill cut off nozzle.
- Driver Panel : Driver control panel for Operation & status indication.

The SandPiper unit is designed to provide a mobile, flexible, non spill, dust free system and is simple to operate, reducing manual handling and material spillage associated with train sand box filling.

- The SandPiper Mobile Sanding Unit Pedestrian Trailer**
- 4 Wheel electrically powered pedestrian vehicle 300kg & 500kg
 - Width 806mm
 - Length 2360mm
 - Ground clearance 164mm
 - 24v 12 Cells 320A/Hr
 - 4.00 x 8 Solid wheels
 - 1.5Kw Motor and brake
 - Turning circle 4.5m

- Vehicle / 4 Wheeler**
- 4 Wheel electrically powered ride on vehicle 300kg & 500kg
 - Width 1060mm
 - Length 2700mm approx
 - Ground clearance 164mm
 - 48v 24 cells 420A/Hr
 - 4.00 x 8 Tyre filled
 - 3.8Kw Motor and brake
 - Semi suspension seat & lap belt
 - To rail spec for lights/buzzers/beacons
 - Lights - LED
 - Headlight - Halogen dip & main light