

# IntraBulk Bulk Reception Unit



Above Ground, Controlled Bulk Intake

## Introduction

Schenck Process Group, are leading providers of feeding, automation and bulk solids handling solutions.

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, feeding, conveying, screening, automation and air filtration technology.



### 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, Waste Water Treatment, Biofuels

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.

### Members of the Schenck Process Group are:





## Overview

The IntraBulk is an above ground bulk material reception solution providing a user friendly, cost effective alternative to conventional below ground intake pits.

The reduction and consequent cost savings achieved from eliminating the need for expensive civil works has seen the IntraBulk selected across a diverse range of industries.

The IntraBulk is capable of receiving bulk materials from a range of bulk handling vehicles including:- road tipping trucks, front end loading units and walking floor trailers.

The wide Apron-Belt design permits a very low loading height allowing the trucks to discharge direct to the entry section with only a small access ramp.

### Operating Procedure

#### Receiver / Buffer Storage / Feeder into Process

- ❖ Material is discharged from the truck into the IntraBulk receiving hopper and also starts to convey further into the holding section of the unit
- ❖ Once the truck has completely discharged its contents into the IntraBulk it leaves the unloading area. The IntraBulk now moves the discharged material forward into the process system or acts as a buffer store
- ❖ The next truck arrives and starts the process of material discharge again

#### Receiver / Feeder into Process

- ❖ High capacity discharge from trucks can be achieved at rates of up to 500m<sup>3</sup>/hr. By using a load regulating plough device the material can be accurately controlled in conjunction with the belt operating speed
- ❖ Once the IntraBulk has been commissioned, trucks can rapidly discharge their loads with minimum vehicle turnaround

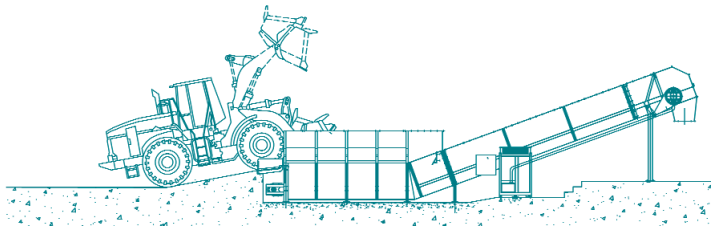




# IntraBulk - Bulk Reception Unit

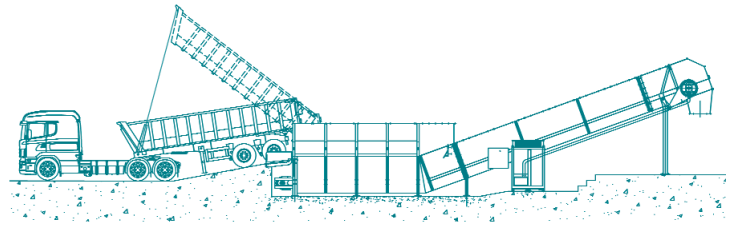


## Application - Above Ground



**Front End Loader Discharge**

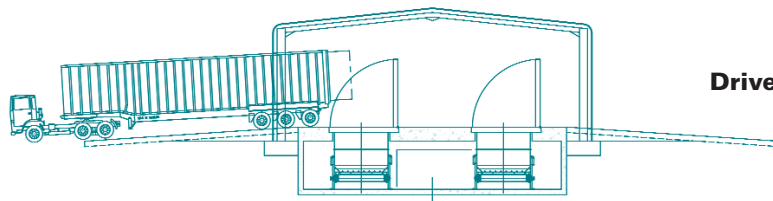
- ❖ Reception via ramp or at floor level
- ❖ In line or side reception



**Reverse & Tip Truck Discharge**

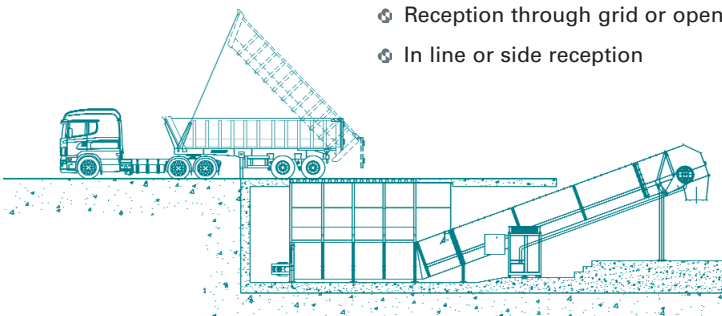
- ❖ Low cost installation
- ❖ Fast vehicle discharge

## Application - Below Ground

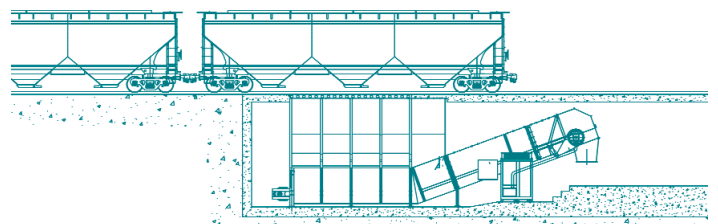


**Drive Through Discharge**

- ❖ Reception through grid or open floors
- ❖ High volume turnaround
- ❖ In line or side reception
- ❖ Fast vehicle discharge



**Drive Over & Tip Truck Discharge**

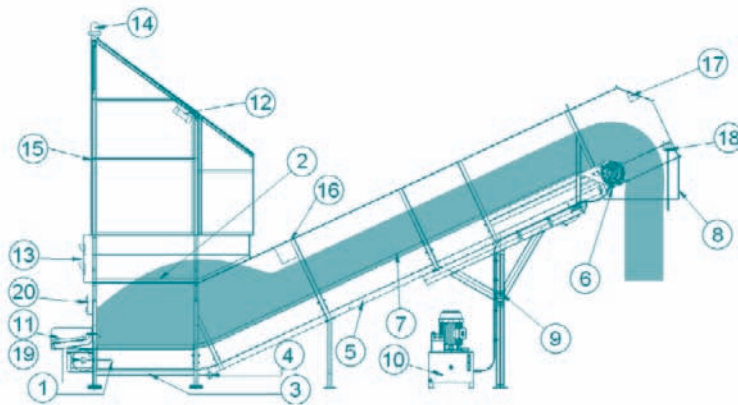


**Polybulk Train Wagon Discharge**





## The Features



- |                       |                                  |                                  |                                  |
|-----------------------|----------------------------------|----------------------------------|----------------------------------|
| 1. Tension Unit       | 6. Drive Unit                    | 11. Intake Ramp & Curtain        | 16. Plough Unit                  |
| 2. Intake Hopper      | 7. Conveying Chain & Belt        | 12. Ultrasonic Vehicle Detection | 17. Head Chute Level Detector    |
| 3. Horizontal Section | 8. Outlet Chute                  | 13. Traffic Lights               | 18. Head Chute High Level Switch |
| 4. Bend Section       | 9. Inclined Section Support      | 14. Warning Beacon               | 19. Rotation / Speed Monitor     |
| 5. Inclined Section   | 10. Hydraulic / Mechanical Drive | 15. Enclosure                    | 20. Manual Stop / Start          |

### IntraBulk Product Range

#### RU2000

Low Density materials

#### RU3000

Medium Density Materials

#### RU4000

High Density Materials

**Application Flexibility:** Angle of inclination, inlet and the belt length can be adjusted to achieve the required discharge height

### Discharge to Process

From the outlet of the IntraBulk via either a transfer chute or buffer hopper, accurate flow control can be achieved by using one of the following feeder to process options:

- ❖ Belt Conveyor
- ❖ Weigh Belt Feeder
- ❖ Screw Conveyor
- ❖ Vibratory Conveyor
- ❖ Chain Conveyor

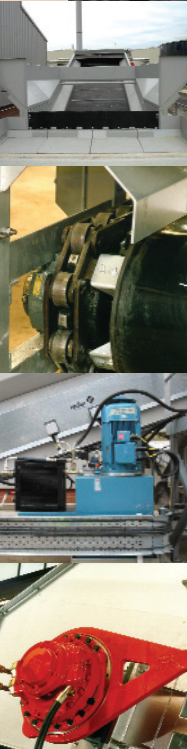
### Enclosures

- ❖ Semi or fully clad weatherproof design
  - ❖ No separate building required
- Available options:
- ❖ Flexible strip curtains
  - ❖ Roller shutter doors
  - ❖ Dust / Fume / Odour extraction connections
  - ❖ Traffic light/ Operating sensors





# schenck process



## The Benefits

- ❖ Low cost above ground installations
- ❖ Reduced pit / hopper depth (if required)
- ❖ Civil works reduced or virtually eliminated
- ❖ Compact installation
- ❖ Rapid reception of material
- ❖ Receives from truck, front end loader or walking floor
- ❖ Fast vehicle turnaround
- ❖ Buffer storage capacity
- ❖ Conveys dry and wet materials
- ❖ Conveys dusty and sticky materials
- ❖ Bridging and blocking eliminated
- ❖ Regulated discharge to process
- ❖ Rapid discharge to process
- ❖ Low power & operating costs
- ❖ Environmental system design
- ❖ Low dust emissions
- ❖ Easy access for maintenance
- ❖ Safe unit operation
- ❖ Can be relocated
- ❖ Worldwide Applications

## Typical Materials Handled

- ❖ Aggregates
- ❖ Agricultural Produce
- ❖ Animal Feeds
- ❖ Basalt Stone
- ❖ Cement Clinker
- ❖ Cereals
- ❖ China Clays
- ❖ Coals
- ❖ Cocoa Beans
- ❖ Conditioned Ash
- ❖ Fertilizers
- ❖ Gypsum
- ❖ Limestone
- ❖ Metal Oxides
- ❖ Ores
- ❖ Pellets
- ❖ Petroleum Coke
- ❖ Pulses
- ❖ Quick Lime
- ❖ Sands
- ❖ Sewage Sludge
- ❖ Wood Chips

Maximum lump size: 150mm

Maximum material density: 2,500 Kg/m<sup>3</sup>







### FloMaster®

#### Circular Bin Discharger

- ❖ Fitted beneath circular silos or bins
- ❖ Positive discharge of difficult materials
- ❖ No bridging or blockage at the silo outlet
- ❖ Compact construction
- ❖ Versatile in material control
- ❖ Single, Two or Three Stage units
- ❖ Totally enclosed
- ❖ Safe/good access for maintenance

## Other Schenck Process Technologies



### FulFiller®

#### Container Loader System

- ❖ Modular portable unit
- ❖ High speed filling of containers
- ❖ Maximises available storage capacity
- ❖ Meets logistics industry criteria
- ❖ Safe/good access for maintenance



### MoveMaster®

#### Conveyors & Elevators

Where industrial processes require materials to be transported horizontally, vertically or up inclines, Schenck Process select the appropriate equipment based on a careful analysis of each specific set of conditions within the process.

- ❖ Capacities 1-2000 tonnes per hr
- ❖ Worldwide references



### MaxiStore®

#### Bridge Distribution System

- ❖ Portside or inland applications
- ❖ Used within new or existing storage facility
- ❖ Schenck Process En Masse conveying principle
- ❖ Even distribution throughout the store
- ❖ Maximises storage capacity



### PortBulk®

#### Mobile Reception Hopper

- ❖ Portside applications
- ❖ Grab entry into hopper
- ❖ Integral dust suppression
- ❖ Heavy duty construction
- ❖ Outloading to vehicles
- ❖ Outloading to transfer system

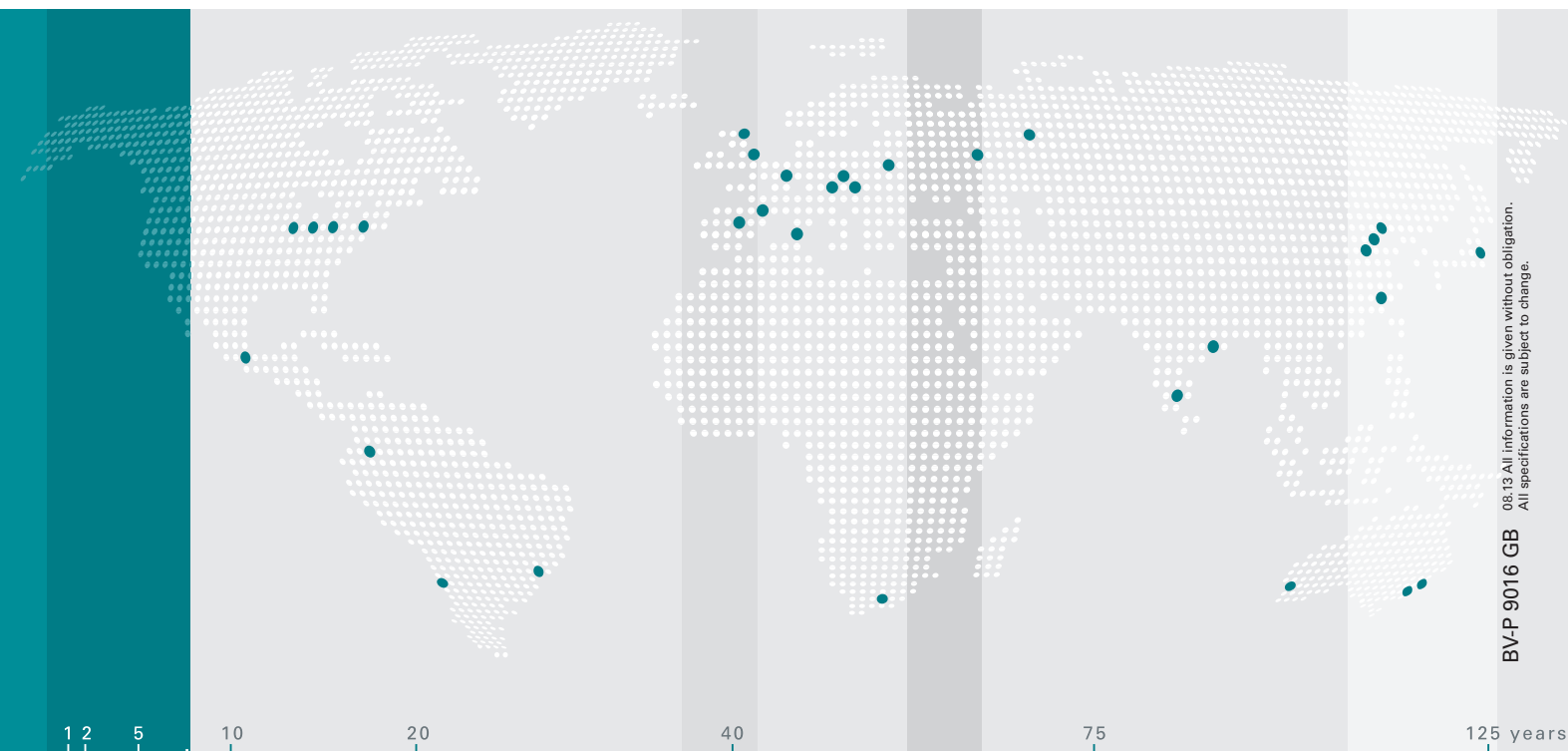
weighing

feeding

conveying

filtration

automation



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