

Pneumatic Conveying Solutions Overview

Identify. Create. Resolve.



The IBS team of professional, knowledgeable and skilled staff represent over 70 years of combined experience in Pneumatic Conveying. We provide complete, efficient and reliable systems to assist with your bulk materials handling needs.

Utilising IBS's total range of Bulk Materials Handling Systems and Equipment we can truly offer a complete end to end solution. Our aim is to utilise our range of pneumatic conveying systems to improve product flow and eliminate plant bottlenecks while economically and efficiently conveying material throughout our client's facility. Whether it is loading or unloading silos and bags, batching material into a process or simply moving material from A to B, IBS has the system to do the job.

At IBS we are acutely aware of geographical problems that face our clients around the world, such as high humidity and condensation. If not taken into account, these factors can render a pneumatic conveying system inoperable. Where necessary, IBS incorporates de-humidification and air chilling to ensure a robust and trouble free system.

IBS has its own range of:

- Air-slides
- Dust collection systems
- Dilute phase conveyors
- Vacuum systems
- Dense phase conveyors
- Fume extraction systems

Our engineers have designed and installed systems for following industries:

- Chemical
- Agricultural
- Food
- Plastics
- Cement



Ask us how we can improve your processes today.

IBS

BULK HANDLING PTY LTD

Pneumatic Conveying Dense Phase

Identify. Create. Resolve.

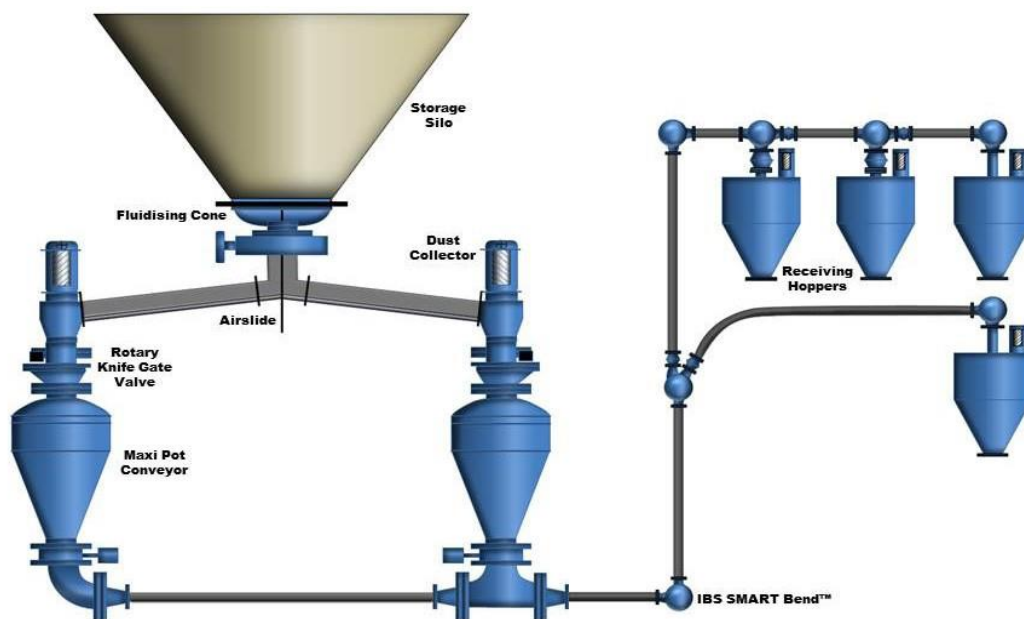


IBS offers a range of dense phase conveying systems and associated components to fulfil pneumatic conveying requirements with extensive options to meet specific material characteristics.

Our capability in pneumatic conveying (specifically dense phase conveying) is the offer of complete and total package solutions catered to meet customers individual requirements. We provide an extensive range of standardised pressure vessels combined with associated ancillary equipment. Options including blowers, compressors and related air-slides, and screw conveyors are available.

IBS pressure pots are designed to convey material with higher conveyor rates by minimising and improved utilization of compressed air resulting in lower energy consumption, less abrasion and minimal product degradation.

Refer below to some common dense phase conveying system options:



Ask us how we can improve your processes today.

Pneumatic Conveying Dilute (Lean) Phase

Identify. Create. Resolve.



IBS has the full range of Dilute Phase Conveying equipment and solutions, offering both positive and negative pneumatic conveying systems which by definition have similar a design theory and adopt the same ancillary plant and equipment.

Dilute Phase Conveying will help you convey your granular and free flowing materials efficiently and reliably, and IBS can provide optimised solutions that will suit specific material requirements, conveying rates and applications.

Dilute (or Lean) Phase Conveying refers to solids which are suspended in an airstream along the pipework. The principal behind this process requires solids to be metered into an airstream either within an rotary airlock, single batch transfer units, double dump continuous units or through a venturi arrangement. All different modes of material transfer have inherent advantages and disadvantages and can be adapted to suit specific customers' requirements and materials to be conveyed.

Typical conveying phase density for this application is a maximum of 15:1 with pipe velocities ranging from 13 to 27m/s using in most instances blowers with maximum pressures up to 150 Kpa positive pressure and 500mb for negative systems.

Dilute Phase fast facts:

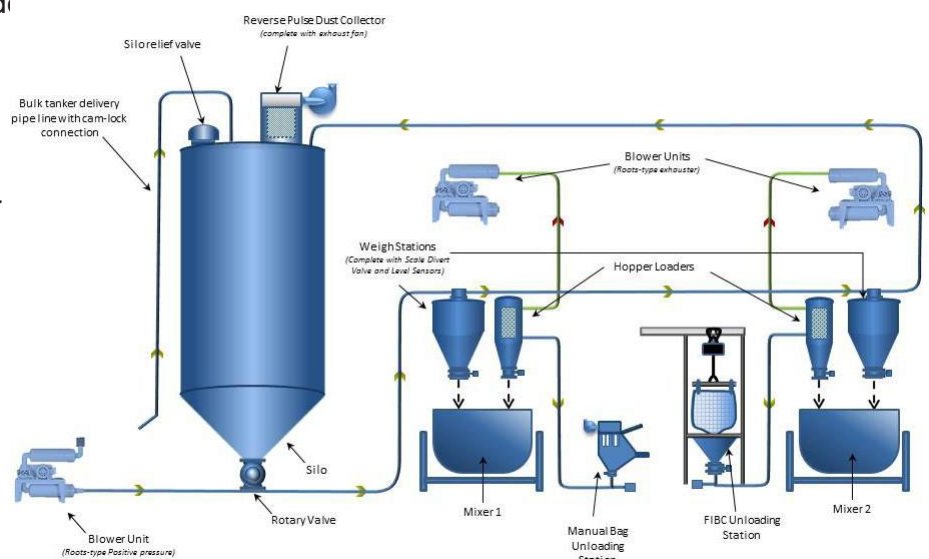
Materials that can be conveyed include:

- Granular & pelletised material
- Resins & Compounds
- Flour, starch and semolina
- Specialty Feeds

Advantages of Dilute Phase Conveyor

- Low Capital Cost
- Easily Modified and Extended
- Operate at Low Pressure

Typical example of Dilute Phase Conveying



Ask us how we can improve your processes today.

IBS

BULK HANDLING PTY LTD

Pneumatic Conveying Mini-Pot™ (MN series)

Identify. Create. Resolve.



The IBS range of Low Volume Pneumatic Conveyors includes the 'Mini Pot™'. The Mini Pot is a very simple, low volume, economical dense phase conveying system ideally suited to small scale transfer applications for fine, coarse and granular materials.

The MN series mini-pot is manufactured in three sizes, offers a single slug material flow using plant compressed air. The unit has the capability to handle friable and abrasive materials. This series provides low cost operation and simple PLC controls, which also enables the unit to be set up to provide continuous or intermittent cycle.

The major advantages of this system are:

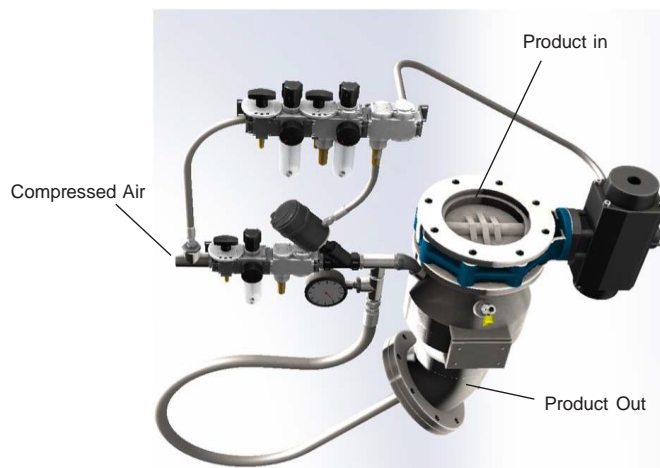
- Use of plant air for conveying (minimum 2 bar)
- Low cost installation and operation
- Conveying capacity up to 5,000kg/hr
- Reduced maintenance due to minimal moving parts
- Simple PLC controls
- Capable of handling fluidised, friable or abrasive materials

Mini-Pot Applications:

- Bag house dust
- Calcium carbonate
- Carbon black
- Activated carbon
- Cement
- Fly-ash
- Lime
- Limestone
- PVC resin
- Soda ash
- Sugar
- Talc

Mini-Pot Features include:

Function	Single slug conveying
Max Pressure	200 Kpa
Flow Rate	Variable (up to 4 t/h)
Features	Design to ASMA code section VIII Div.1 or Unfired pressure vessel code AS 1210 - 1974
Valves	Butterfly valve c/w pneumatic actuator, solenoid and limit switches



Note:

For higher capacities refer to IBS Dense Phase/

Mini-Pot Dimensional Data					
Model	A	B	C	D	E
MN 12	300	680	50	150	150
MN 20	360	750	65	150	200
MN 32	420	850	80	200	200

Ask us how we can improve your processes today.

Vacuum systems feature prominently in industrial applications for conveying a range of materials including granular and powders. The advantage of vacuum systems are that they provide a safe and hygienic transfer of materials, combined with flexibility of alternate conveying configurations.

The IBS range of vacuum hopper loaders includes the VR and HVR series, which are both designed to meet most vacuum pneumatic conveying requirements up to conveying rates of 40 t/h.

The hopper loaders design incorporates a reverse pulse filter cleaning facility which includes a Spun Bond Polyester filter media cartridge, and can also be optioned to include bag filters. Spun bond polyester offers the best efficiency and most appropriate filtration solution for handling submicron particles.

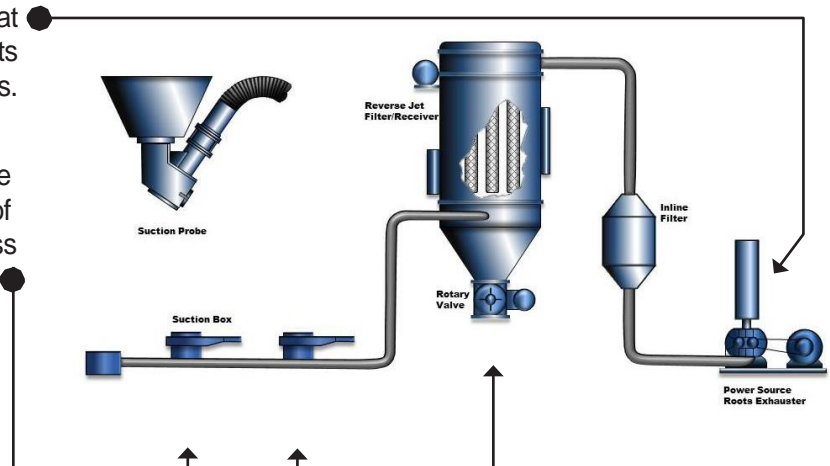
The key advantages of the IBS VR and HVR series include:

- Modular method of construction which enables extension or reconfiguration of the equipment quickly and easily as required;
- Options to suit specific conveying requirements, including interchangeable bag filters or cartridge filters;
- Designed for disassembly and/or quick turnaround cleaning which facilitates periodic product changeover to suit production cycles;
- Conveying from multiple sources;
- Provides hygienic conveying that is free from contamination.

The hopper loaders can be supplied with side channel exhauster, or roots type exhausters that are sized to suit specific conveying requirements and customer specifications.

Valves & fittings are fundamental to the satisfactory automatic operational function of the process

Typical Vacuum Conveying System Configuration



Ask us how we can improve your processes today.

Pneumatic Conveying Air Slides

Identify. Create. Resolve.



IBS Airslides are the most economical transfer system for fluidisable materials.

Our Airslides are an extremely efficient method of conveying large volumes of fluidised powders. The airslides are a very simple device consisting of a rectangular chamber separated by a permeable cloth membrane. Air is injected into the lower chamber, and fluidises the powder on the membrane. The powder then flows like a liquid.

IBS Airslides can include many accessories to suit a variety of applications:

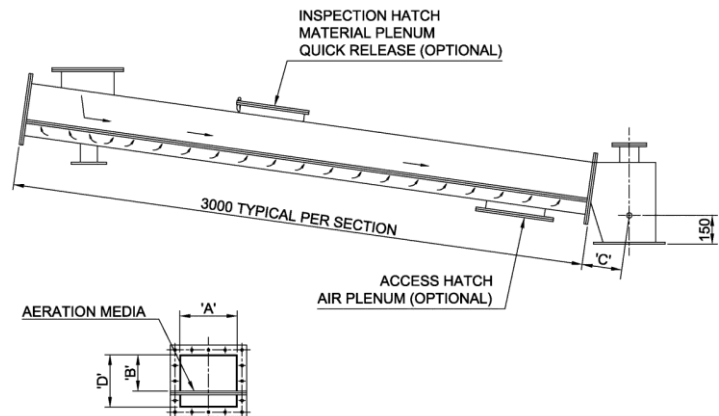
- Silo discharge and transfer
- Feed spouts with slide gates for isolation
- Weir plates to regulate flow
- Diverter valves and splitters
- Turning pots
- Dust vent filters

IBS Airslides are ideally suited to many different materials including:

- Activated carbon
- Alumina
- Gypsum
- Cement
- Fly-ash

Right: Some sample conveying volumes.

(For Reference Only) Please contact us for your specific application.



Model	'A' (mm)	'B' (mm)	'C' (mm)	'D' (mm)	Conveying Volume (m ³ /hr)
AS1510	150	100	150	150	20-40
AS2015	200	150	175	200	40-80
AS2515	250	150	200	200	68-127
AS3020	300	200	225	250	84-180
AS3520	350	200	250	415	170-340
AS4025	400	250	225	465	225-450
AS5030	500	300	325	565	450-900
AS6035	600	350	375	665	640-1300

Ask us how we can improve your processes today.

Pneumatic Conveying Fluidised Hopper Aeration (FHA)

Identify. Create. Resolve.



FHA units include the following features:-

- Silica based material which is abrasive resistant
- Compact and easy to use for all cone installations
- Suitable for powder and granules
- Capable of working in temperature range of 400C to 1200 C

Air Consumption	Operating Pressure	200Kpa	400Kpa	600Kpa
		Air Consumption	0.28m3/min	0.66m3/min

FHA Overview:

The fluidised hopper aerator (FHA) when fitted to hopper cone is a flow aid designed to inject compressed air into the vessel cone and break up the frictional forces which allow material to hang up and prevent flow.

The FHA can be mounted on the cone in various configurations allowing either consistent use or in a pulse phase mode by the use of suitable sequence control unit and solenoid valves.

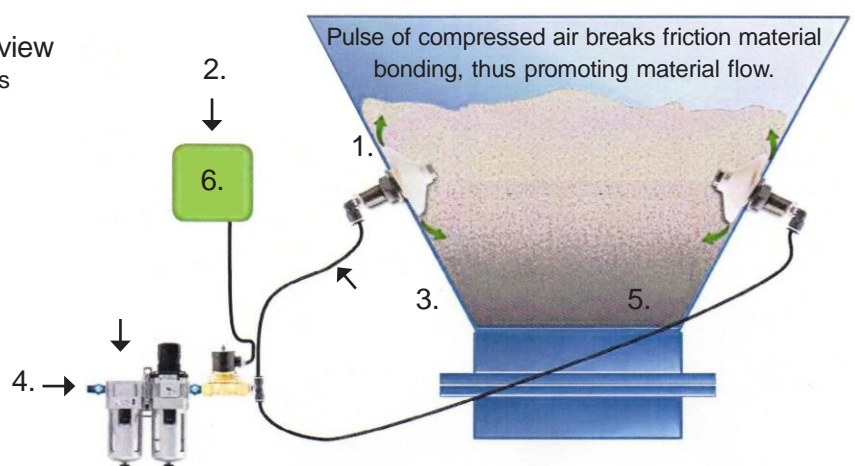
The FHA must not be used with full line pressure and a filter, pressure regulator must always be included. Pressure regulator must be set slightly higher than operational pressure.

Aeration Flow-Aid Kit:

IBS aerators are used on hopper cones as a flow aid. The flow aid kit is offered as a package solution to promote discharge by utilizing compressed air, providing an ideal solution for applications such as cement, milk power, coal, dust and many other materials.

Aeration Flow-Aid Kit & FHA System Overview

1. Aerator will conform to canoe on cylindrical vessels
2. Power in (adjustable)
3. Filter regulator
4. Air Entry Compressed Air Supply
5. Pneumatic push air line
6. Adjustable pulse sequence timer box



Ask us how we can improve your processes today.

IBS

BULK HANDLING PTY LTD

Pneumatic Conveying Components and Spare Parts

Identify. Create. Resolve.



IBS Spare Parts Service

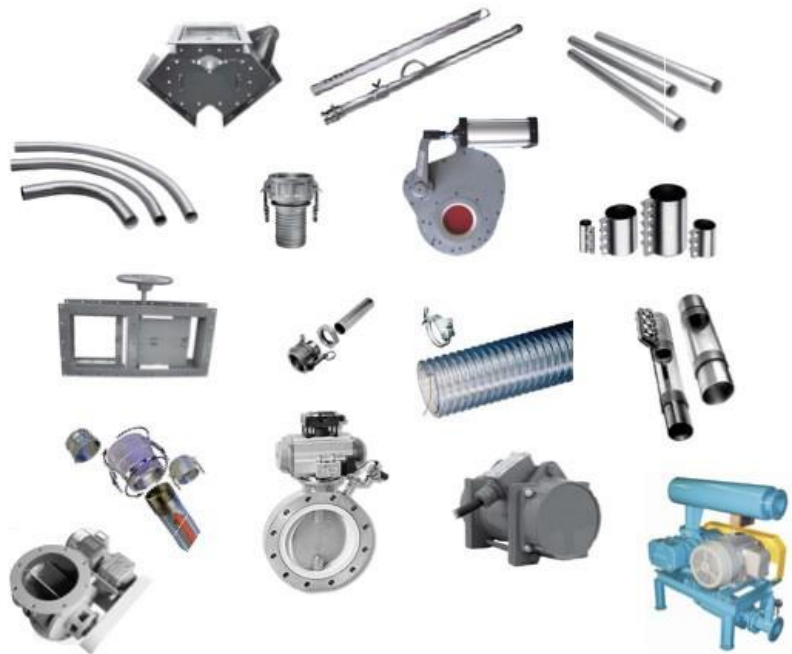
For IBS supplied equipment, we can provide a full inventory of accompanying spare parts.

We have a range of standard pneumatic conveying items that come in a variety of sizes and dimensions.

If you have any specific spare parts requirements, we can also provide custom spare parts sourced from our network of local and overseas suppliers, or we can design and fabricate as required.

We provide a range of freight options based on the urgency of your particular spare parts needs, and where required, we can arrange for air-freight, over-night freight or a same-day delivery service as required, at the applicable charges.

IBS can also stock an inventory of 'critical spares' based on your assessment of parts that may urgently be required at short notice. A warehouse fee will apply to this facility.



Ask us how we can improve your processes today.

IBS Bulk Handling
Unit, 205/75 Tulip St,
Cheltenham Victoria, Australia 3192
Tel: +61 3 9585 6391
Fax: +61 3 9585 4349
info@ibsbulkhandling.com.au
www.ibsbulkhandling.com.au

IBS China
Rm. No.413, Shouxi International Building,
No.6 Wenchang Middle Rd.,
Yangzhou City,
China-225003
Tel: +86-514-82065058
Fax: +86-514-82065058

IBS South East Asia
Fico Place Building,
3rd Floor, Room 305,
18/8 Soi Sukhumvit 21 Rd. (Asoke)
Wattana, Bangkok, Thailand 10110
Tel: +66 (0) 2 661 6778
Fax: +66 (0) 2 661 6776