



INTEGRATED AND PRO-ACTIVE APPROACH TO EXCELLENCE



# VISION & MISSION



## VISION

Indpro's vision is to build total brand value through innovation and quality engineering to achieve total customer satisfaction in the field of bulk solids handling.

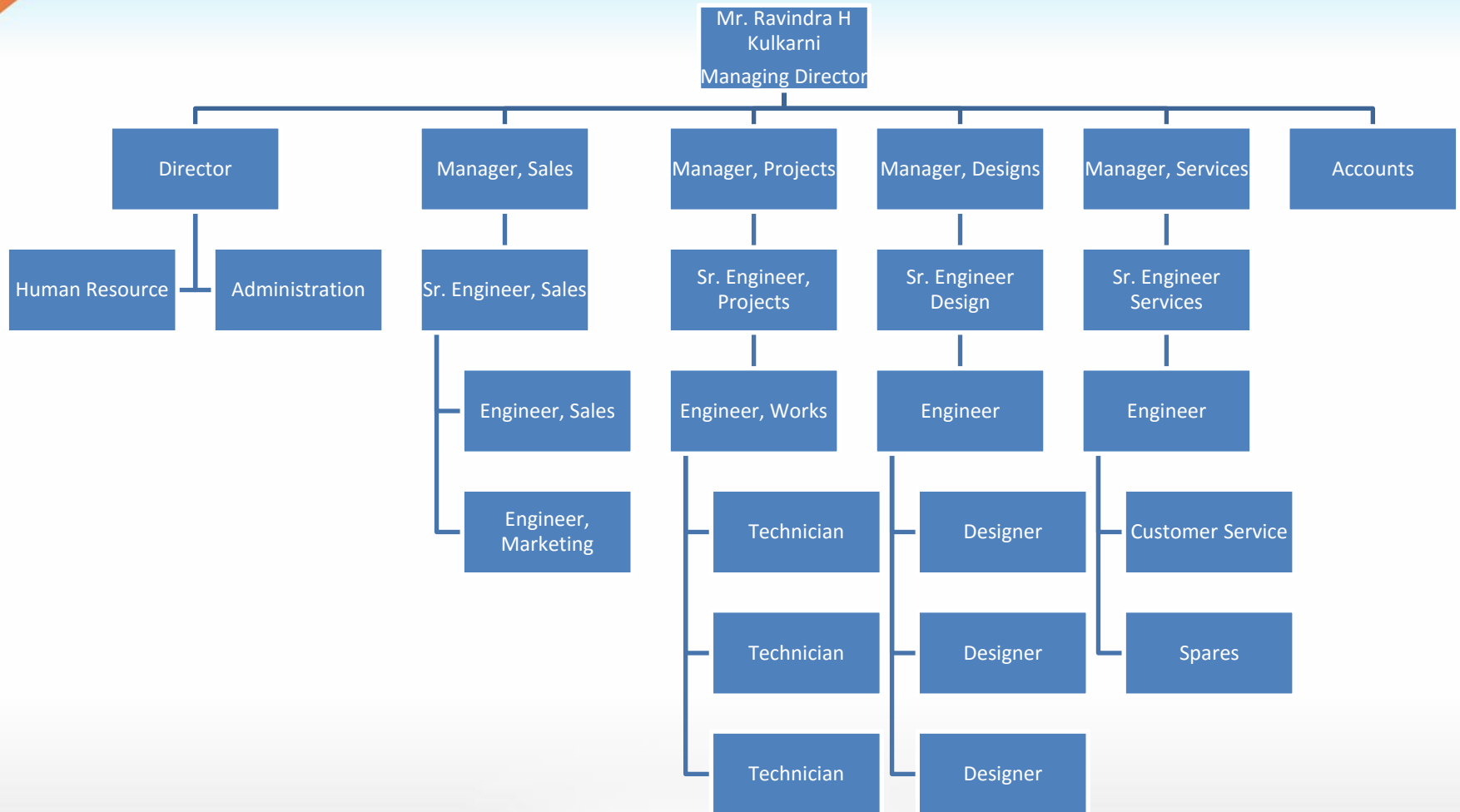


## MISSION

We will strive to attain our vision by continually improving performance in every area and level of the organization. Our performance will be guided by a clear and concise strategic development plan for each business unit and by an on going quest for excellence within all operational and staff functions.



# ORGANIZATIONAL CHART



# CAPABILITIES & BUSINESS AREA



**Distilleries and Breweries**  
**Food & Pharma**  
**Chemical & Petro chemical**  
**Plastics and Polymers**

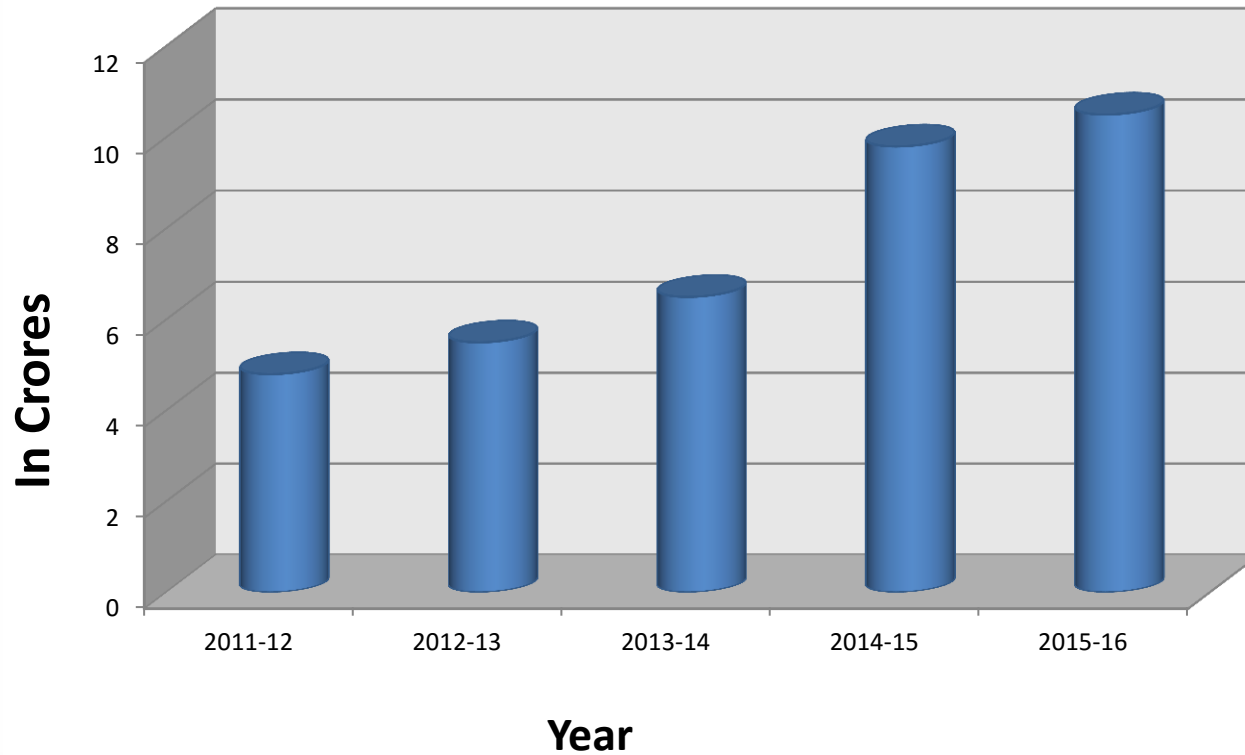
# INFRASTRUCTURE – OFFICE & WORKS



# COMPANY MILESTONE



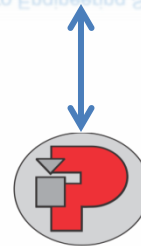
# BUSINESS PERFORMANCE



# OUR BUSINESS ASSOCIATES

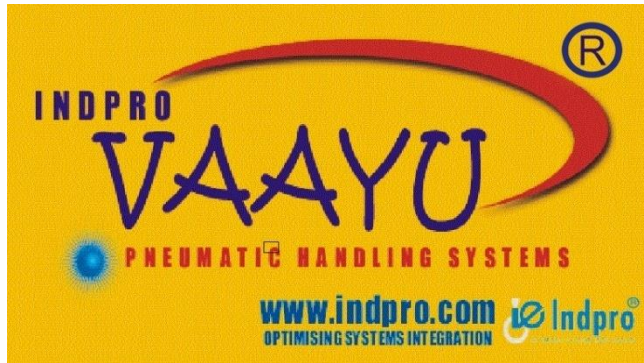


Discover **Bulkmatology**<sup>®</sup>  
The Nature of Bulk Material Handling





# PNEUMATIC CONVEYING SYSTEM



# PNEUMATIC CONVEYING SYSTEM

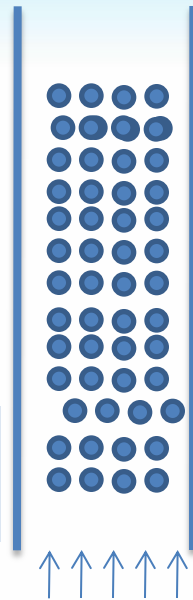


## Technologies we offer

### Lean/ Dilute Phase Conveying

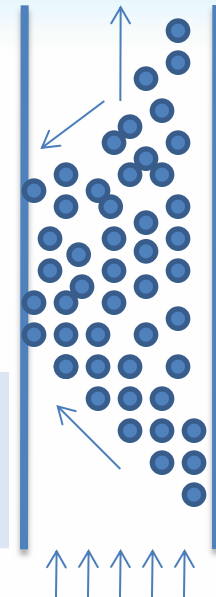
- Pressure type
- Vacuum type

High gas velocities:  $v = 25-40$  m/s  
Low product to air ratio: range 1-10 to 1  
Low to medium pressure drop:  $p = 0.1-1.0$  bar



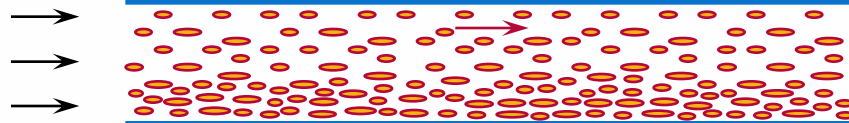
### Dense phase conveying

Low gas velocities:  $v = 2-10$  m/s  
High product to air ratio: range 15-50 to 1  
High pressure drop  $p = 0.5 - 3.5$  bar  
Special pipe support Yes



### Strand Phase Conveying

Optimized gas velocity:  $v = 15-25$  m/s  
Medium product to air ratio: range 5-20 to 1  
Medium to high pressure drop  $p = 0.5-2.0$  bar  
Special pipe support requirements: No



# COMPARISON



Conveying Type	Selection	Advantages	Limitations
Lean/Dilute Phase	<ul style="list-style-type: none"> <li>• Conveying rates upto 100 TPH</li> <li>• Distances upto 500 meter</li> <li>• Pressure upto 2 barabs</li> <li>• Pressure, Vacuum or combination of both</li> </ul>	<ul style="list-style-type: none"> <li>• Simple design</li> <li>• Low cost</li> <li>• Operator friendly</li> <li>• Simple pipe supports</li> <li>• No Pressure/Volume control unit required</li> </ul>	<ul style="list-style-type: none"> <li>• Product Degradation in terms of change in form, segregation and loss of aroma</li> <li>• Dust and streamer generation</li> </ul>
Strand phase	<ul style="list-style-type: none"> <li>• Conveying rates upto 100 TPH</li> <li>• Distances upto 500 meter</li> <li>• Pressure upto 3 barabs</li> <li>• Pressure, Vacuum or combination of both</li> <li>• to have most economical system with minimal dust geneartion.</li> </ul>	<ul style="list-style-type: none"> <li>• No special air management or controls necessary</li> <li>• No need for special pipe supports</li> <li>• Less maintenance</li> <li>• Moderate levels of coarse, easy to remove dust and streamers</li> <li>• High system flexibility in reference to capacity turn-down ratios</li> <li>•Moderate capital investment costs</li> </ul>	<ul style="list-style-type: none"> <li>• Limitation for conveying distance</li> </ul>
Dense Phase	<ul style="list-style-type: none"> <li>• Conveying rates upto 60 TPH</li> <li>• Distances upto 2500 meter</li> <li>• Pressure upto 5 barabs</li> <li>• Pressure system is preferred</li> </ul>	<ul style="list-style-type: none"> <li>• Less energy consumption if one air mover and more systems</li> <li>• Minimum dust and streamer generation</li> <li>•Suitable for abrasive and degrdable products</li> </ul>	<ul style="list-style-type: none"> <li>• The product range is less</li> <li>• The pressure loss is high</li> <li>• fine micro dust generation</li> </ul>

# COMPARISON



## Characteristics

### Different Conveying Modes

	Dilute Phase	Strand Phase	Dense Phase
Product range	wide	wide	narrow
Gas velocity	high	medium	low
Product/gas ratio	low	medium	high
Product dispersed	yes	partly	no
Pressure loss / m (=D)	medium	low	high
Pressure range typical	blower	Up to 2bar	3 – 6bar screw
Air management system	no	no	yes
Pipe size	medium	small	large
Energy consumption	high	small	medium
Installed cost	low	medium to low	high

# PELLETRON STRANDPHASE

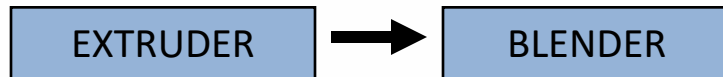


## Pneumatic Conveying

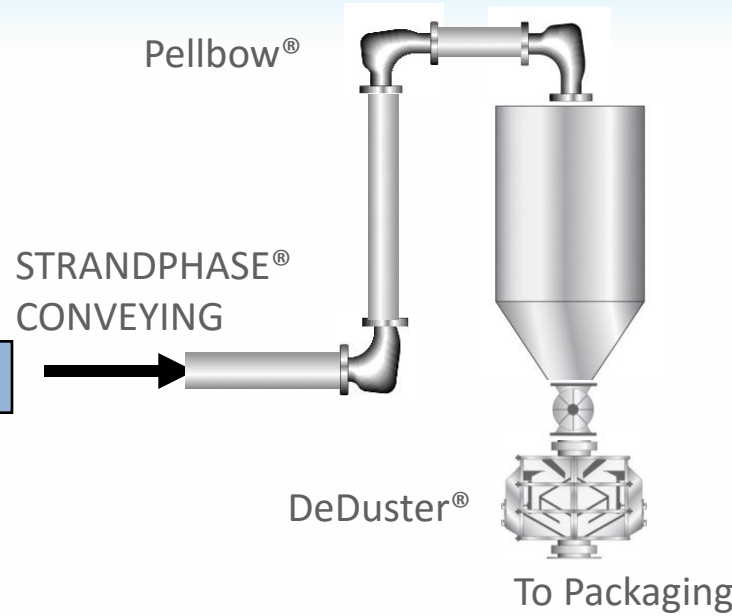
### Systems technology

**NEW** pellcon3™ Process

STRANDPHASE™ conveying



Use of Pellbows in conveying lines = component two



Component th

BAGGING  
TRUCK  
LOADING

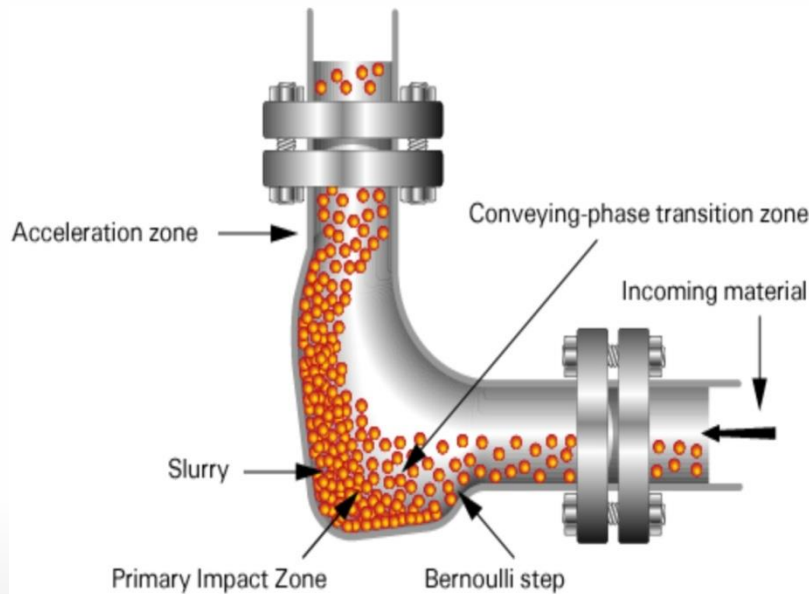
# PELLETRON COMPONENTS



## The Pellbow®

For fines reduction and streamer elimination

**The Pellbow® , a specially designed and patented pipe elbow**

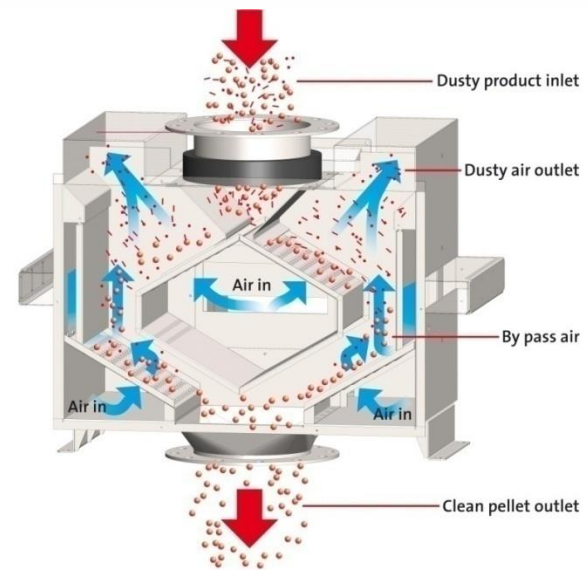


## DeDuster®

Dust and streamer removal solutions

The Pelletron DeDuster® working principle consists of three (3) patented features:

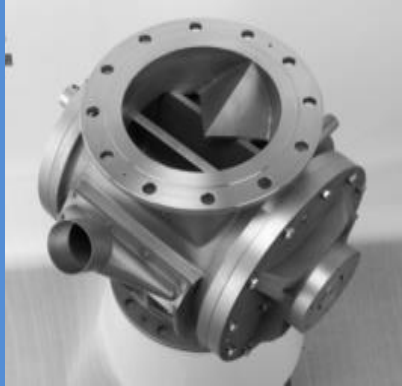
a)Magnetic flux field coil b)Wash Deck c)Ventury Zone



# PELLETRON COMPONENTS



## Rotary Valves



### Rotary Valve:

- Anti shearing device (patented) for gentle product handling
- Integrated leakage air vent for improved filling efficiency
- Heavy duty housing and bearing support for minimized rotor tolerance
- Closed end rotor
- Double lip seal



### Quick Clean Rotary Valve :

- Suitable for granular and pellets or powder
- For medium pressure pneumatic conveying systems or gravity applications
- For differential pressure up to 1.5 bar



### Mirror finished Rotary Valve:

- Buffing 400
- For powder Applications
- For medium pressure up to 1.5 bar






### Blow Through Rotary:

- For medium pressure up to 1,5 bar
- For medium pressure up to 3,5 bar in development
- For high capacities up to 150t/h

# PELLETRON COMPONENTS



<p>Diverter Valves</p>			
<p><b>Size / Material</b></p>	<p>DN 50 to DN 300 Stainless Steel/ Aluminum Alloy</p>	<p>DN 75 to DN 300 Stainless Steel/ Aluminum Alloy</p>	<p>DN 50 to DN 500 Carbon Steel/ Stainless Steel</p>
<p><b>Use of Application</b></p>	<p>Powder &amp; Pellet <i>Conveying / Gravity Feeding</i></p>	<p>Pellet <i>Conveying / Gravity Feeding</i></p>	<p>Powder &amp; Pellet <i>Gravity Feeding</i></p>
<p><b>Rotating Angle</b></p>	<p>45°, 90°, 135°</p>	<p>45°</p>	<p>30°, 45°, 60°, 90°</p>
<p><b>Pressure Range</b></p>	<p>up to 6 bar</p>	<p>up to 4 bar</p>	<p>up to 0.2 bar</p>



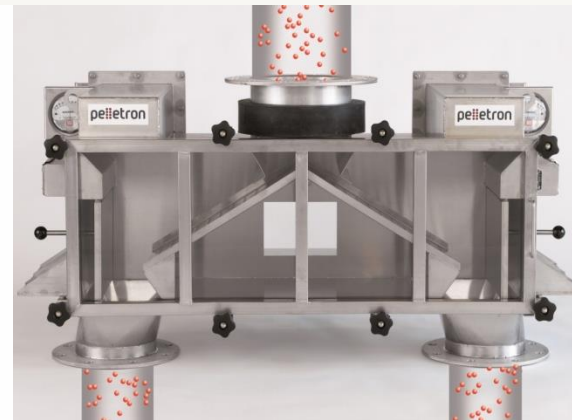
# DEDUSTING TECHNOLOGY



**Pelletron P-series DeDuster®**



**Pelletron DO-series DeDuster®**



**Pelletron XP-series DeDuster®**



**Pelletron RC-series DeDuster®**



# AIR POLLUTION CONTROL



Bag / Dust Collector Unit



Sintered Plate Element Filter Unit

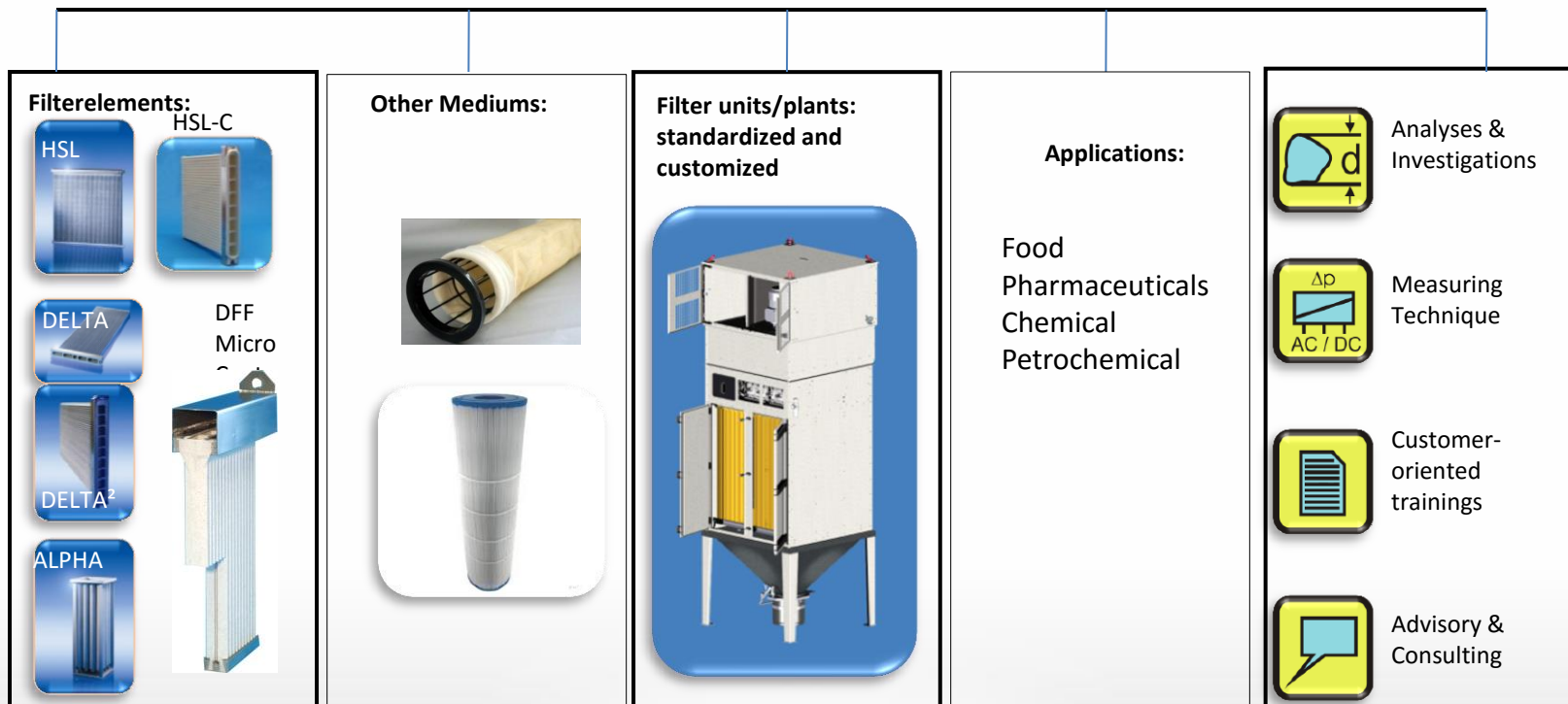


# AIR POLLUTION CONTROL



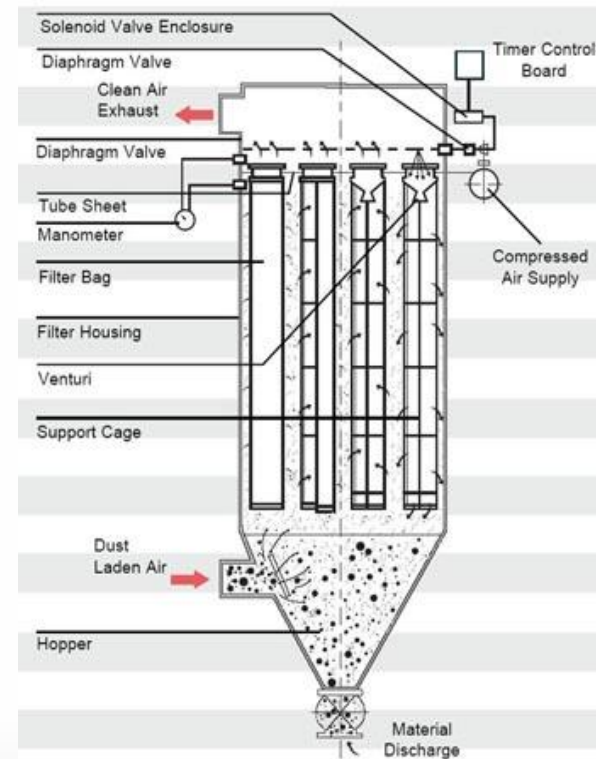
## Complete Solution

Complete systems solutions in filtration: all from one single source!





## Principle Of Operation





## Filter Medium



## Filter Bags

- ⓘ Diameter 160 mm, length 1m to 4m
- ⓘ Application Specific Cloth material
- ⓘ Cleaning Pressure 6 Bar
- ⓘ Good Flexible strength
- ⓘ Outlet Emissions less than 10 mg

## Filter Cartridge

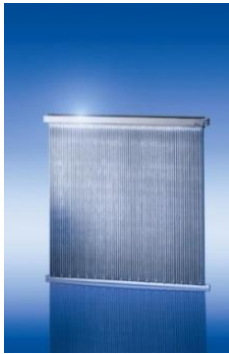
- ⓘ Diameter 150 /225/327 mm
- ⓘ Application Specific filter material
- ⓘ Cleaning Pressure 4 Bar
- ⓘ Good Flexible strength
- ⓘ Outlet Emissions less than 10 mg

## Sintered Element Filter

- ⓘ Length 750 to 1500 mm
- ⓘ Polyethylene PTFE coated
- ⓘ Cleaning Pressure 4 Bar
- ⓘ Rigid Body Element
- ⓘ Non Fibrous
- ⓘ Suitable for product recovery
- ⓘ Outlet emissions up to 0.2 mg



## Sinter Plate Filter Element



HSL up to 70° C



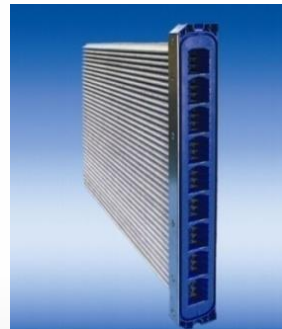
HSL-C up to 100° C



DFE MicroCoat



Herding® DELTA



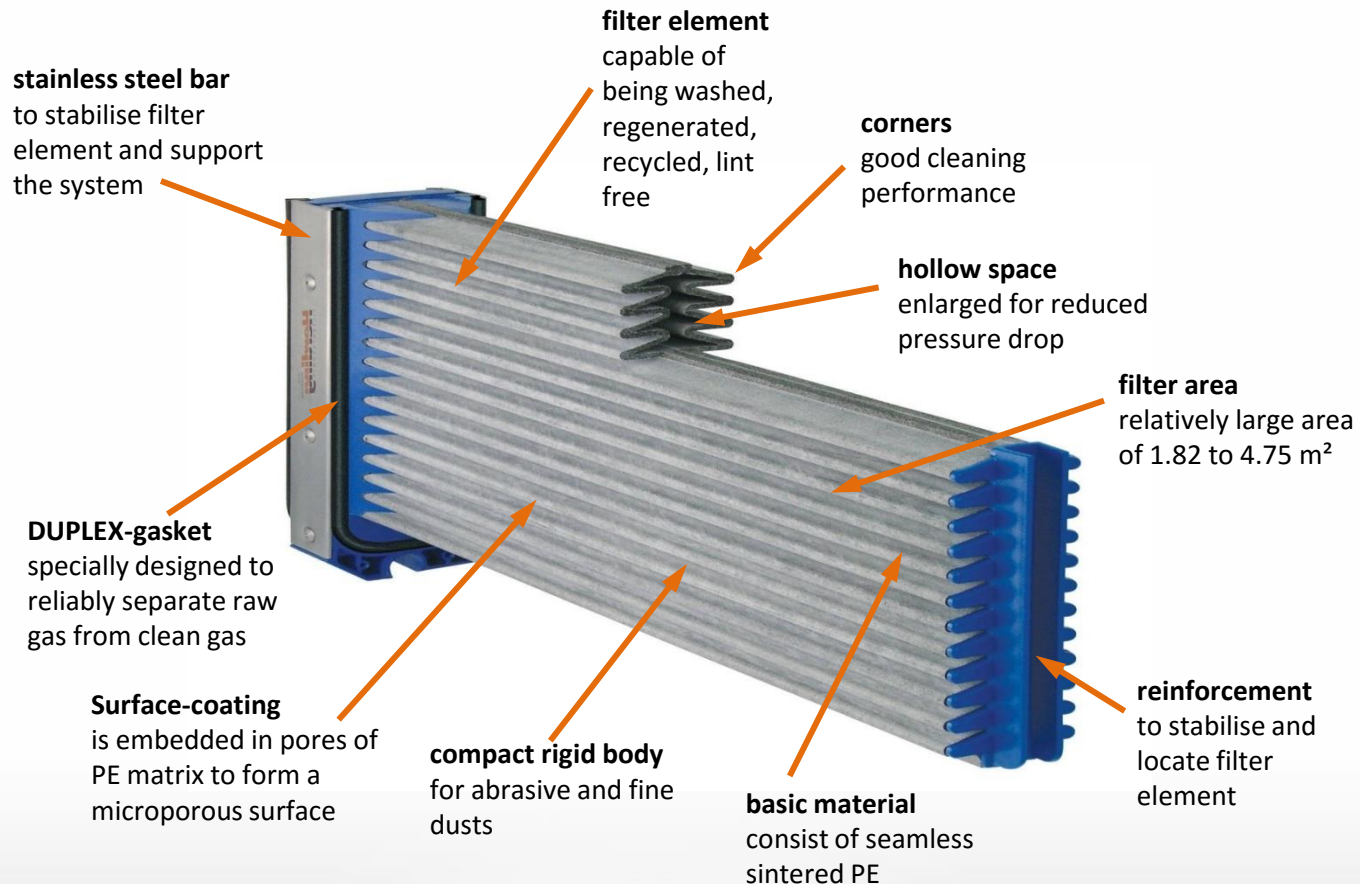
Herding® DELTA<sup>2</sup>



Herding® ALPHA filter up to 450° C



## Herding® DELTA/DELTA<sup>2</sup> filter element



# AIR POLLUTION CONTROL



## SAMAIIR® Filter Units

- Panel design for large units
- Bag/Cartridge as filters
- 2 Years life of filter medium\*
- Outlet emissions low as 10 mg
- Contains fibres
- Perfect for Dust Collection
- Moderate input cost
- High maintenance cost
- Resistance to Temperature upto 250°C



## Herding® Filter Units

- Panel design for large units
- Rigid body Elements
- 10 Years life of filter elements
- Outlet emissions low as 0.2 mg
- Contains no fibres
- Perfect for product recovery
- Low maintenance cost
- Resistance to Temperature upto 85°C

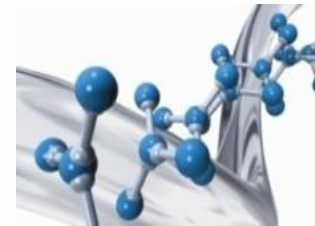






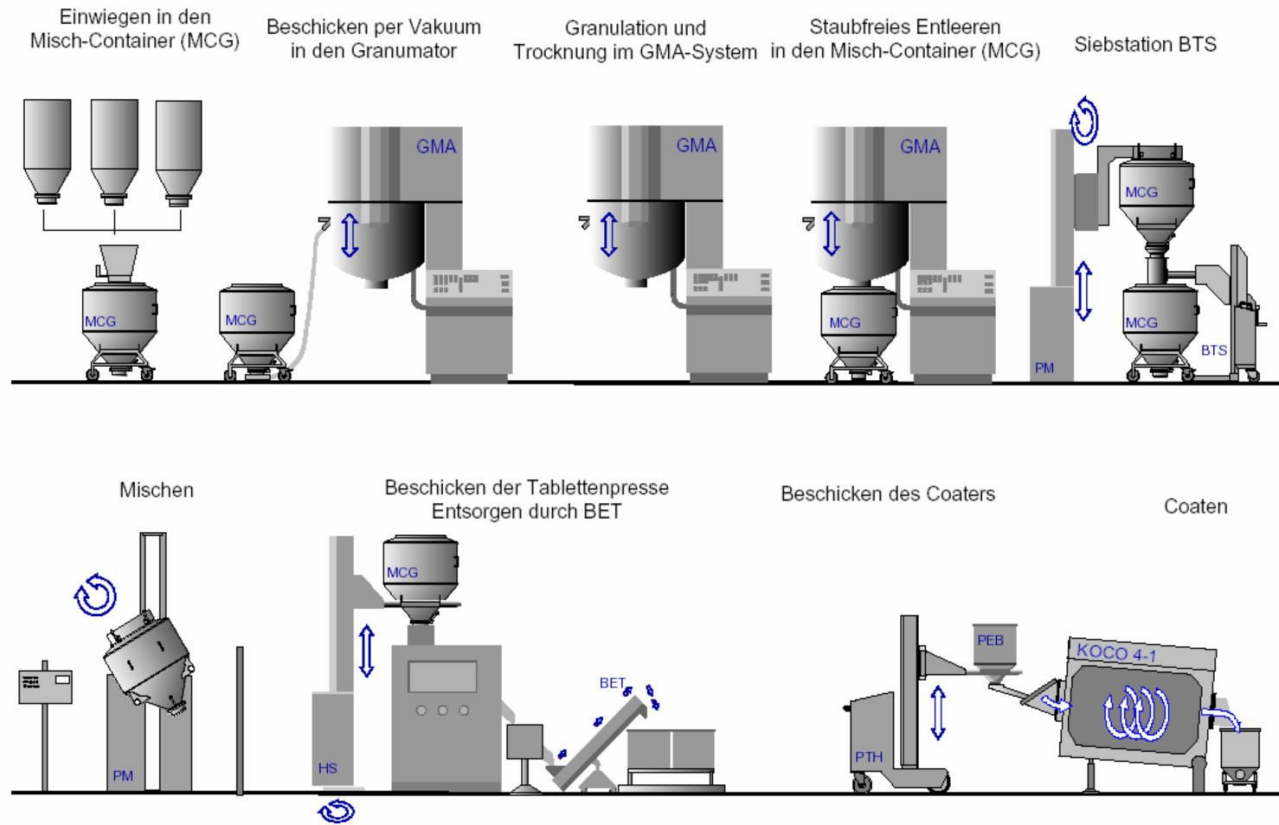
## Applications-SAMAIIR®

- CHEMICAL** – Dyes, SAP, Specialty Chemicals
- FOOD** – Sugar, Flour, Malt, Adjunct, Protein Powder
- DAIRY** – Skim Milk Powder, Whole Milk Powder
- PETROCHEMICAL** – Resins, Additives, HDPE, LLDPE, PP, PE
- PLASTICS AND POLYMERS** –  $\text{CaCO}_3$ ,  $\text{TiO}_2$ , Dolomite,  $\text{Al}_2\text{O}_3$ , Talc
- AUTOMOBILE** – Battery Production





## Applications-Herding® Pharmaceuticals





## Constructive Explosion Protection

Pressure relief of dust explosions“ according VDI 3673



Suppression of dust explosions“ according VDI 2263 Part 4



Explosion-proof design pressure shock resistant or pressure resistant





## Retrofit of bag filters to Herding® sinterplate filters



### Benefits for the user:

- Smaller space requirements (space reduction: approx. 40%!)
- Constant operating conditions



# BAGGING & PALLETIZING



## **PAYPER** BAGGING TECHNOLOGY

Solutions & machineries:

Weighers of:

-  **Gross weight:** Weighing and filling at the same time
-  **Net weight:** Weighing previously to filling



CSA



PB: Gross Weigher



CC-800: outputs up to 2.000bags/hour



PN: Net Weigher



KID-BAG



## Solutions & machineries: Big-Bags



### Big-Bags:

GROSS or NET filling station designed for manual or automatic operations:

- ⓘ Outputs: up to 50 T/hr
- ⓘ Weight range: from 500 to 2000Kg
- ⓘ Product type: powders, non-free flowing, granulates, flakes,...

# CLIENTS

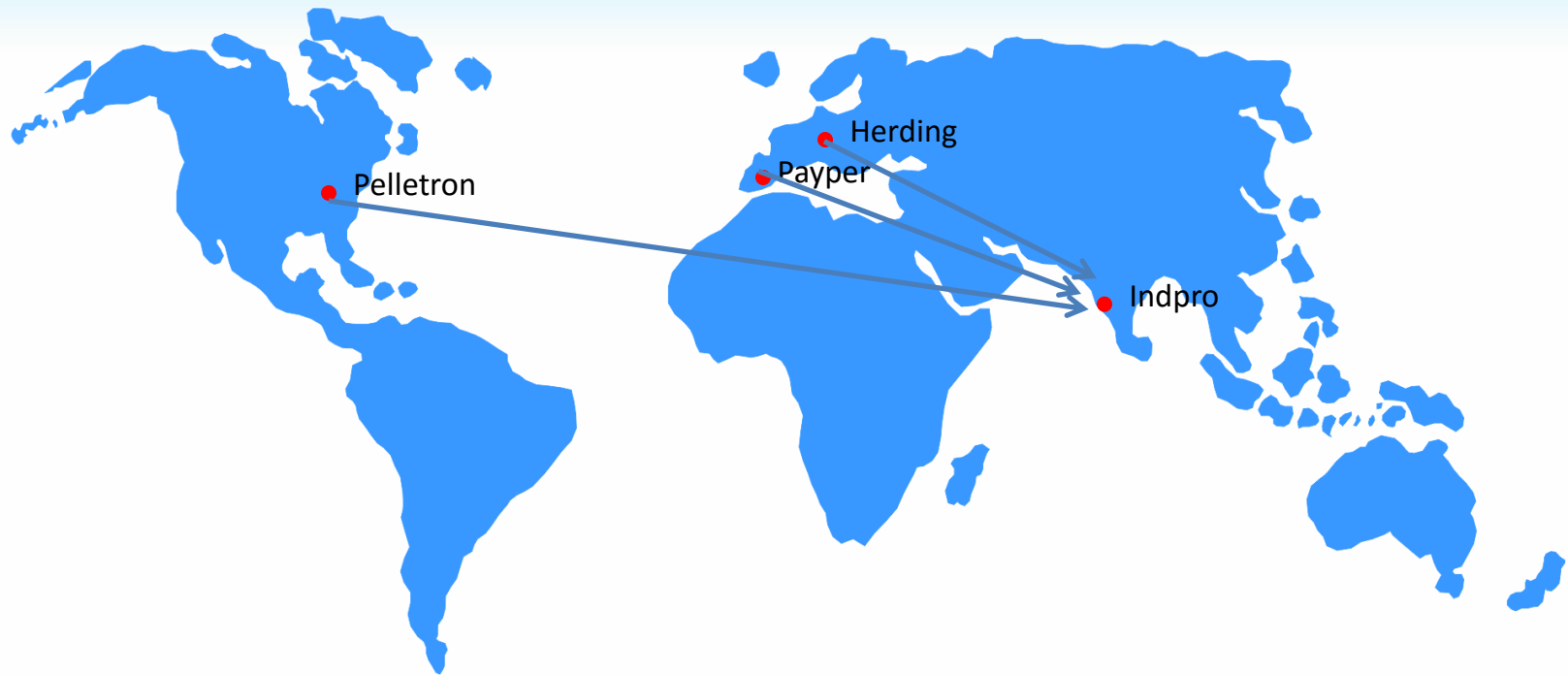


# CLIENTS





## LOCATION



### Head Office & Works :

**INDPRO ENGINEERING SYSTEMS (PVT) LTD**

Gat No-281/1, Plot No-29, Taluka-Mulshi Pirangut, Pune-412111

**TELEPHONE:** 020-65290122 , 65001532 | **WEBSITE:** [www.indpro.com](http://www.indpro.com) |

**EMAIL:** sales@indpro.com; info@indpro.com



Thank you!