



# LITHIUM BATTERY INDUSTRY POWDER HANDLING SYSTEM

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Matcon are powder handling experts who were established 40 years ago. Our materials handling solutions include automated systems for formulation, transfer, and discharging of the complex ingredients used in Lithium-ion battery production and recycling, providing safe, efficient handling options for all powders.



SACK TIP



R SERIES IBC

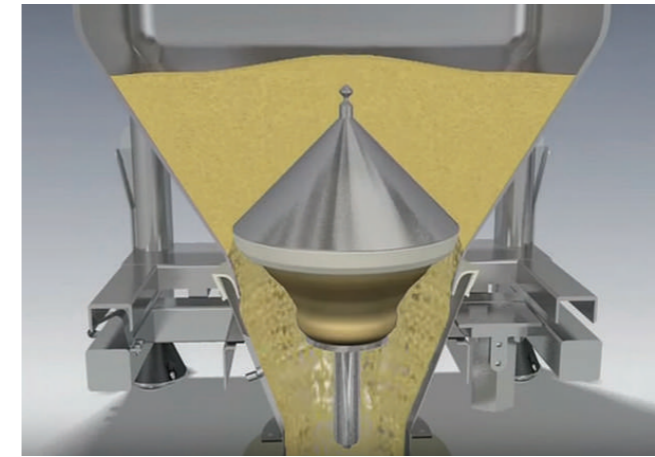


S SERIES IBC



IBC BLENDER

To overcome all powder handling issues the Cone Valve within each IBC can be configured with adjustable lift heights & vibration.

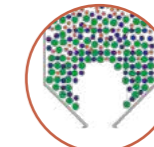


The Cone Valve technology is designed to encourage cohesive materials to flow, whilst maintaining the homogeneous blend of the powders.

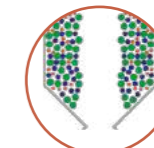
Free-flowing powders can be controlled without the need for additional feeders, and can discharge to a specified weight, by use of the variable lift height of the Cone Valve.

Blended material can be fed to the downstream process with minimised risk of segregation, as the Cone Valve promotes mass-flow of the powder. Flow can be shut off during discharge without any damage, as the Cone Valve moves with the flow of material.

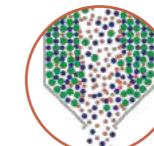
Dust-free handling enables the safe handling of potentially harmful powders.



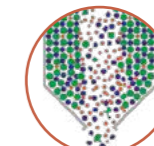
BRIDGING



RAT-HOLING



SEGREGATION



DEGRADATION

AVOID THESE  
POWDER HANDLING ISSUES

## CONE VALVE IBC RANGE

The Matcon range of Cone Valve IBCs are suitable for blending, storage and transportation of lithium battery raw materials. The range includes the R Series IBC which comprises a polyethylene container supported in a steel framework and the S Series stainless steel IBCs.

**Transporting/storage:** once filled, the powders inside the IBCs are secure and contained.

**Filling:** Matcon supply a range of manual or automatically operated Fill Heads, which attach to the IBC inlet and provide a dust tight connection during filling.

**Blending:** the IBC is suitable for tumble blending on a Matcon IBC Blender. Achieve immediate changeover without cleaning as all powder is contained within the IBC.

**Discharging/Feeding:** being fitted with the Matcon Cone Valve technology at its outlet means powders are discharged in a controlled and dust-tight manner. Sticky powders are encouraged to flow, free flowing powders are controlled without segregation of the mix.

**Cleaning:** the IBC is designed to be easily and thoroughly cleaned. Wash equipment models are defined based on production requirements & powder characteristics. The process can be validated.



### R Series options:

- Mild or stainless-steel framework
- White polyethylene container as standard
- Optional semi-conductive black bottle
- 500L to 2500L capacities
- Stackable - 2 IBCs high
- IBC movement by fork truck, chain conveyor or AGV



### S Series options:

- Surface can be Halar coated
- 500L to 3500L capacities
- Stackable - 2 IBCs high
- IBC movement by fork truck, chain conveyor or AGV

## Comparison of Pipe, Big Bags & IBCs



	Pipe	Big Bags	IBCs
Prevent cross contamination	2/5 (Yellow)	2/5 (Yellow)	5/5 (Green)
Containment	3/5 (Yellow)	2/5 (Yellow)	5/5 (Green)
Easy to clean	2/5 (Yellow)	3/5 (Yellow)	5/5 (Green)
Operator safety	4/5 (Green)	2/5 (Yellow)	5/5 (Green)
Residual losses	4/5 (Green)	3/5 (Yellow)	5/5 (Green)
Traceability	1/5 (Red)	3/5 (Yellow)	5/5 (Green)
Control of powder	4/5 (Green)	4/5 (Green)	5/5 (Green)
Batch flexibility	4/5 (Green)	4/5 (Green)	5/5 (Green)
Automation	5/5 (Green)	2/5 (Yellow)	5/5 (Green)

### IBC Systems for the lithium battery industry

- Contained, sealed transfer of powders
- Cone Valve technology – controls powder feed
- GIW/LIW dosing capabilities direct from the IBC
- IBC compatible with AGVs – automating production
- IBCs available in stainless steel & polyethylene to suit powder specific properties. Stainless steel can be Halar coated
- Complies with ATEX safety standards



Customized IBC  
No Cu, Fe, Zn



**Reliable**

**Contained**

**Efficient**



THE POWDER HANDLING EXPERTS

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