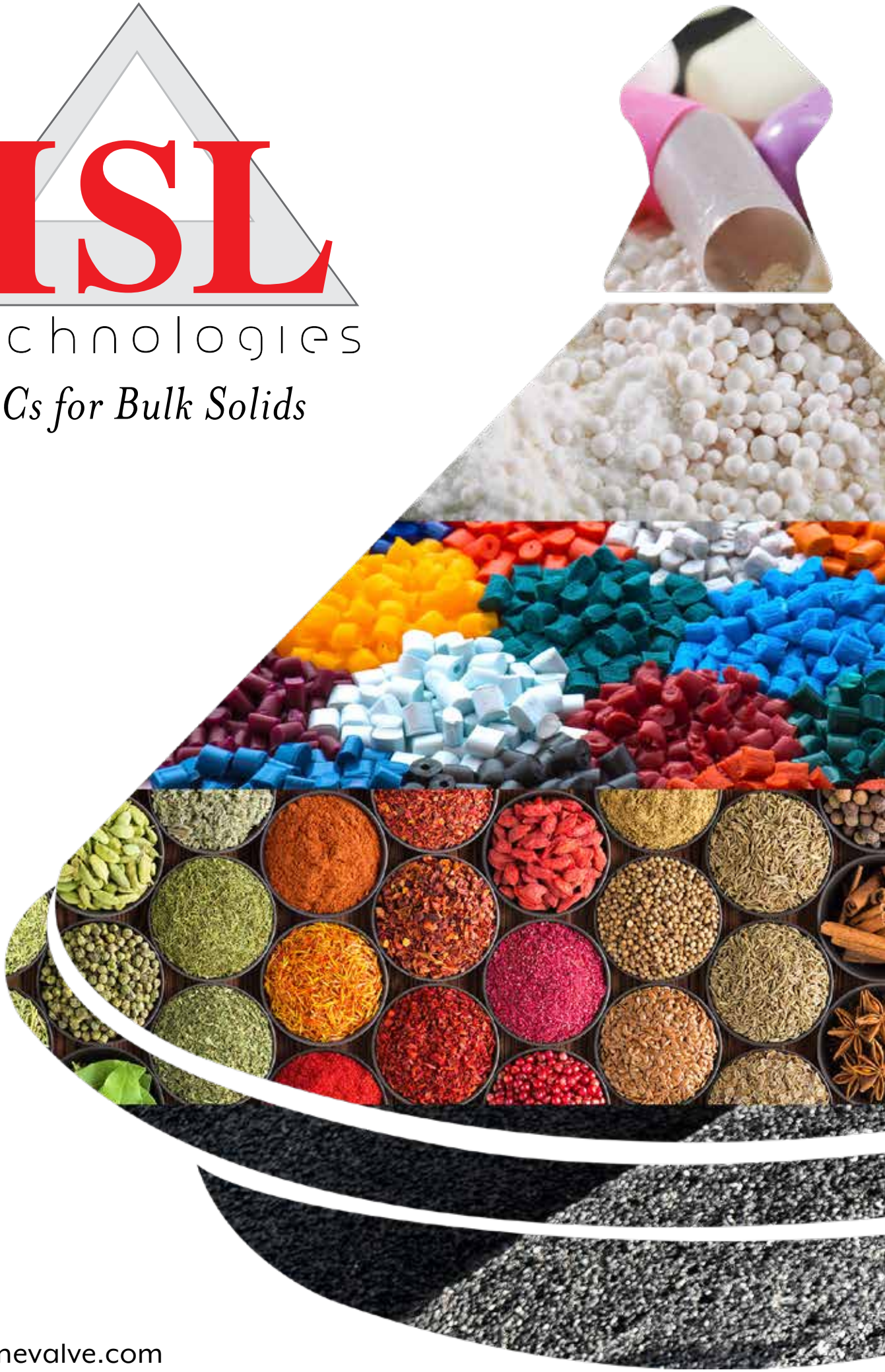
ISL Technologies

IBCs for Bulk Solids



www.conevalve.com

ISL Technologies...

Our expertise begins when the materials are in powder or granular forms. The IBC systems are used for storage, transfer, and discharge processes. The cone valve technology is the core principle of our operation and systems.

Our unique and patented design operates reliably by using plant air to lift the cone valve into the storage vessel creating a variable and controllable aperture.

Traditionally IBCs have been fitted with Butterfly Valve / Slide Gate Valve. These valves have no flow control and do not address the flow problems, such as Rat Holing, Bridging, Segregation, etc... in an IBC. ISL Technologies has incorporated a **CONE VALVE** as a discharge valve in their IBCs.

This provides a **contained** and **systematic discharge** of bulk solids from the IBC to the process below. ISL Technologies's Cone Valves **minimize segregation** of blended material during discharge. Integrating our IBC systems in a process is easy and simple to operate.

Roles of an IBCs

Key Features Using The Cone Valve Technology

- *Lean Manufacturing*
- *Lower Downtime*
- *Batch Accountability*
- *Expandable Systems*
- *Flexibility Manufacturing*
- *Contained System*

Intermediate Bulk Containers (IBCs)

ISL Technologies manufactures IBCs ranging from 0.5 cu.m to 3.0 cu.m in Stainless Steel (304 / 316L) and Plastic Moulded IBCs. The vertical body of the IBCs is octagonally shaped This provides:

◊ Rigidity to the body of the IBC

◊ Promotes Flow

◊ Increases In-Bin Blending efficiency

ISL Technologies also manufactures custom-made round body IBC too

Standard components for an IBCs would include:

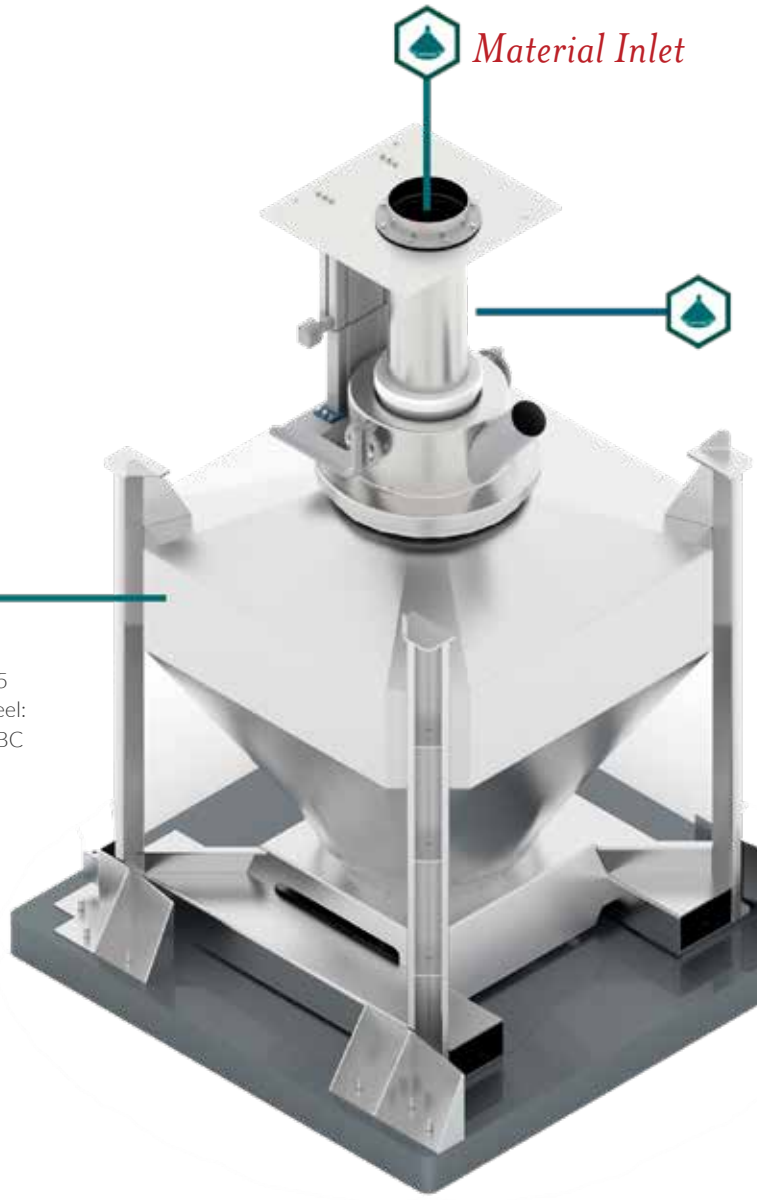
◊ IBC Body

◊ IBC Lid with Seal **(optional lid clamps are also available)**

◊ Stainless Steel Composite Cone Valve

Cone Valve as a Discharge Valve, Fits at the Bottom of the IBCs

Filling / Fill-Head



Material Inlet

The Fill Head

The Fill Head can only be lowered once the IBC is in position. There is a sensor on the Fill Head that ensures that the IBC lid is removed before filling

ISL manufactures IBCs from 0.5 cu.m to 3.0 cu.m in Stainless Steel: 304, 316L or plastic moulded IBC

Floor Locator

A floor locator during a filling operation ensures:

- IBC is placed directly under the Fill Head
- IBC has a Cone Valve installed in place

Floor Locator comes with an optional floor scale to make sure the correct quantity of product is filled in the IBC.

The product needs to be filled into the IBC either from a process, bulk bags or a sack tip station. ISL Technologies Fill Head provides a simple connection from a process to the material inlet of the IBC. The cyclonic features of the Fill Head ensure maximum dust containment. The lifting and lowering of the Fill Head uses an electric lifting column. A floor locator fitted on the floor guides the IBC under the Fill Head to ensure the correct position of the IBC during Filling. Platform scales or load cells can be incorporated to ensure the correct weight of bulk solids is filled in the IBC.

Discharge & Dosing

The Discharge Station is designed to discharge the bulk solids or blended material from the IBC in a controlled and safe manner into processes such as mixing, packaging, screening, and conveying.

Different types of bulk solids have different types of flow properties. This requires the valve to be lifted at heights, so that product flows properly out of the IBC. The discharge station is fitted with a **"Lift Height"** Sensor. The position of the lift height can be changed through the settings in the control panel without the need to disassemble the discharge station.

Load cells can be mounted to the frame of the discharge station for the following purposes:

◊ Checking the weight of the ingredient/s in the IBCs

◊ Batching - As a batch weigh system, the Cone Valve works in bulk and dribble feed mode with a predefined system accuracy

◊ Continuous Dosing— As a continuous dosing system, the cone valve aperture is varied automatically in response to feedback from a rate controller so as to maintain a constant rate.

Main Features of Discharge Station

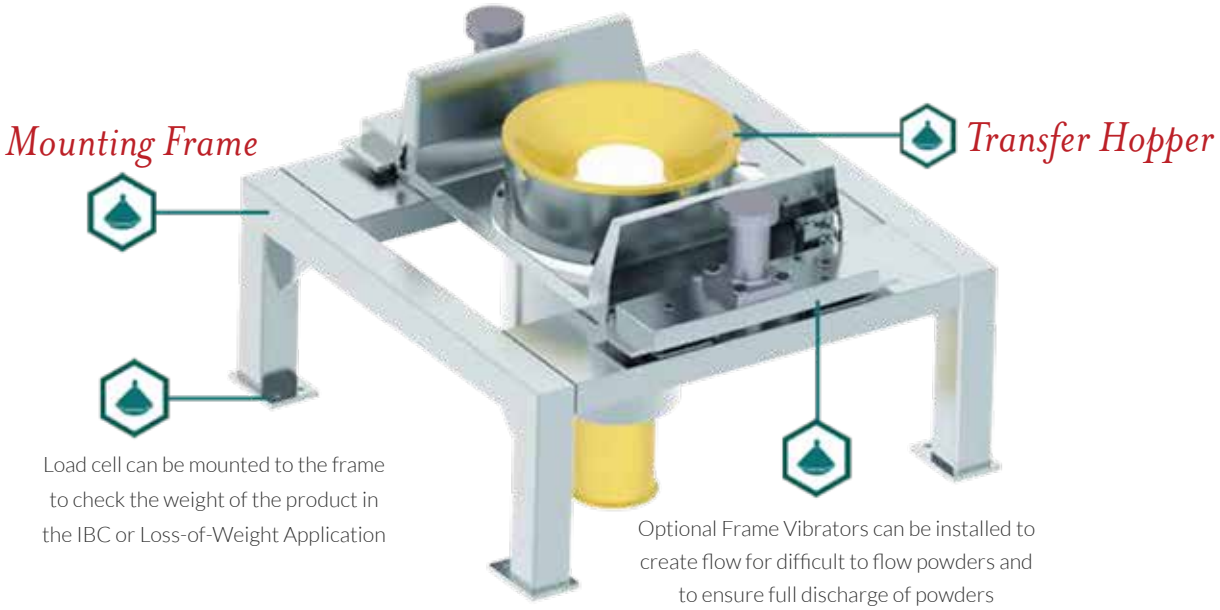
◊ **The Lifting Mechanism**— is not in the product flow

◊ **Free Passage**— for the products to flow

◊ **Easy to Clean/ Minimum Downtime**— Can be dismantled and assembled in a matter of minutes

◊ **Least Number of Components**—Less spare parts requirements

◊ **Programmable Variable Lift Height**— enables the discharge station to be used in weighing / batching application



In-Bin Blending

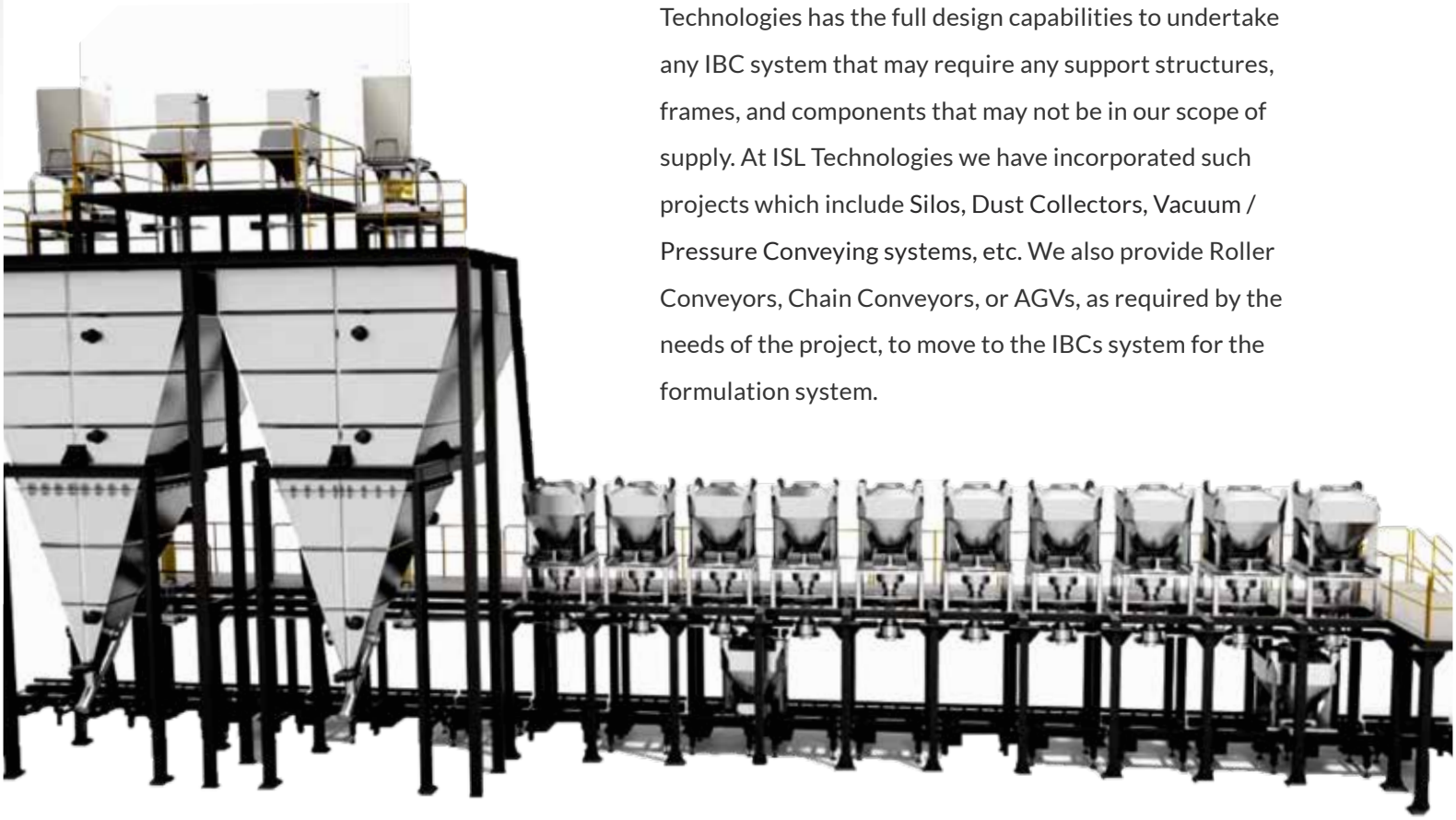
In-Bin Blending provides companies to blend the material in the IBC. Mixing directly within the IBCs reduces the number of product transfers by two (02) and the unique advantage of the cone valve is that during each revolution, it separates and re-mixes the product, so creating a better-quality mix.

Mixing the product in the IBC gives a very big advantage to companies that do **just-in-time** production processes as well as frequent change / small batches to be blended. Each IBC can have its unique formulation and after blending, the IBCs can be washed/ dried to take another type of formulation, thereby reducing a great deal of downtime.

At ISL Technologies, we offer a trial for **In-Bin Blending**, to give you the satisfaction that your formulation can be blended efficiently in minimum time and less degradation to the product.

Formulations

Regardless of the scale of the project, ISL is always willing to sit with you and discuss the details of the project.ISL Technologies has the full design capabilities to undertake any IBC system that may require any support structures, frames, and components that may not be in our scope of supply. At ISL Technologies we have incorporated such projects which include Silos, Dust Collectors, Vacuum / Pressure Conveying systems, etc. We also provide Roller Conveyors, Chain Conveyors, or AGVs, as required by the needs of the project, to move to the IBCs system for the formulation system.



Washing & Drying

The biggest advantage of an IBC System installation is that the IBC can be washed and dried without, any downtime at the production level. Depending on what types of bulk solids are stored in the IBC, ISL Technologies can design an appropriate **Washing and Drying System**. Our sales and application engineers can sit down with your team to go through your requirements in detail and provide your company with a solution, which meets the specification and also your budget demands.

ISL Test Centre – Singapore

ISL Technologies have the complete system available for demonstration and testing purposes. We welcome you to visit us and see the system for itself. This gives you a complete understanding of the system and its components, but more importantly, you will see that it is so simple and easy to operate with a minimum requirement of spare parts. If you need to rent the system, then please discuss with us to get a copy of our rental agreement.

Global Presence

ISL has partners in many countries.
They would be able to provide you
with sales consultation and after-sales service.

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