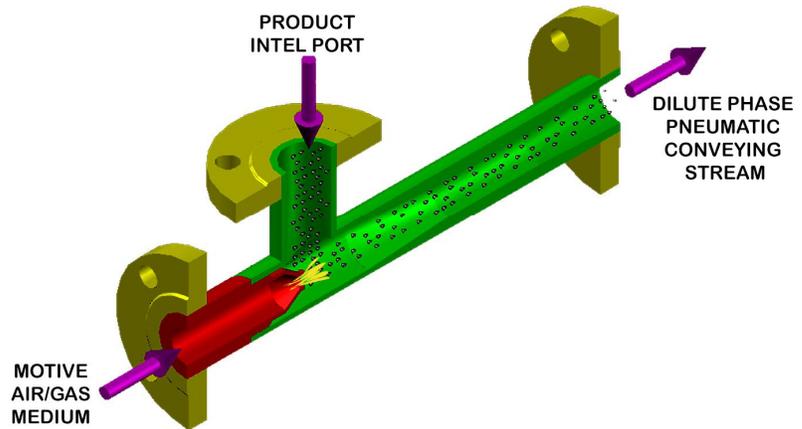


# SOLID CONVEYING EDUCTORS E1400 SERIES



- Solid conveying involves the transport of particulate materials mostly by air or other gases.
- Venturi eductors utilize the air output of a blower to generate vacuum that can be used to entrain and feed powders, pellets and bulk solids into a Pneumatic Conveying stream to deliver the solids at the destination Silos/Bins at a different location and at different elevation.
- Solid Conveying Eductors are used in dilute phase, positive conveying systems.
- Solid Conveying System is generally a more practical and economical way of transport when compared to alternative mechanical conveying systems such as belt conveyors, screw conveyors because of the following reasons:
  - Relatively economical to install and operate.
  - These are clean, environmentally acceptable and simple to maintain.
  - Flexible in terms of rerouting and expansion.
- Solid Conveying Eductors can be successfully employed in conveying various powders, bulk solids, pellets.
- Solid Conveying Eductors can be used to transport all types of dry materials. The Material of Construction has to be chosen depending upon the nature, size (limiting factor) and its ability to erode and corrode the walls of the ejector.
- Solid Conveying Eductors are used as an alternative to Rotary airlocks, Screw Conveyors, Bucket elevators, Flexible conveyors as they do not require any maintenance.



## PRINCIPLE OF OPERATION

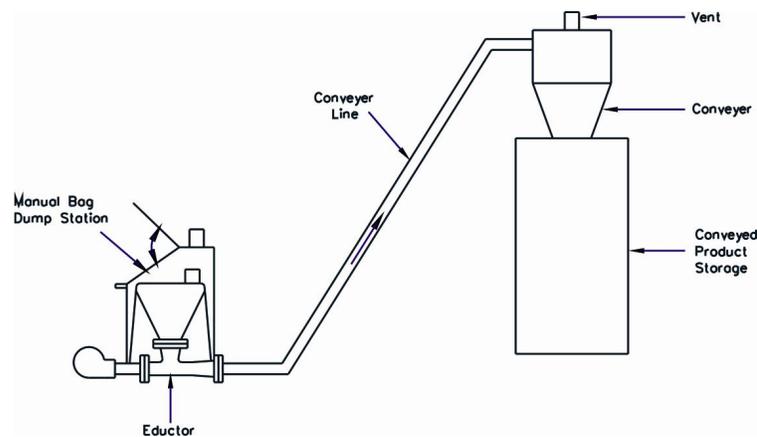
- Solid conveying works on the principle of **Pneumatic conveying**
- Solid conveying eductors are **converging-diverging venturies** which are used primarily in transportation of bulk solids. Air at the required pressure is sent in as a motive fluid.
- The suction is connected to the hopper which contains the materials to be conveyed. Air passes through the motive nozzle, creates vacuum and sucks the materials from the suction side and delivers to the customer defined destination.
- Depending upon the nature and bulk density of the materials to be conveyed and the available pressure, the size and the conveying capacity of the Eductors differ.

## APPLICATION

- These Eductors are installed beneath several solid processing equipments because they create vacuum at the product inlet which results in dust free material conveying system. They are commonly installed in the following solid processing equipments:
  1. Bins & Hoppers,
  2. Mixers, Grinders & Mills,
  3. Bag House & Dust Collectors,
  4. Classifiers/Screeners Outlets,
- Solid Conveying Eductors can convey a variety of solids ranging from nuts, salts, oats to alumina, cement, zeolite, Iron Oxide etc.

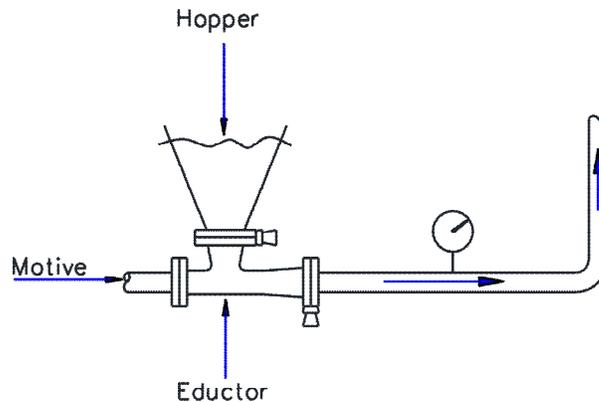
### BAG DUMP STATIONS

Solids handling eductors are ideal for conveying product from bag dump stations. Food additives (sanitary dump stations) and fine powders (talc, resins) are examples of bag dump applications that benefit from eductor technology. Placed below the hopper in a bag dump station, eductors eliminate blowback due to leakage and control dust clouds by creating vacuum and drawing the product in.



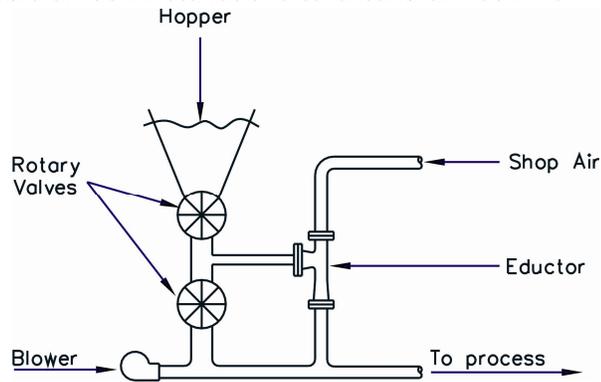
### ABRASIVE MATERIAL HANDLING

Solids handling eductors convey abrasive materials (including Coke fines, sand, metal powders, etc) with no moving parts. The result is less downtime from close tolerance wear problems associated with rotary valve designs. A variety of options can be used to increase the strength and wear resistance of eductors to meet the exact specifications of almost any application. Cast iron solid handling eductors can be hardened to 55 Rockwell °C throughout, carbon steel eductors can be surface hardened, and eductors with ceramic wear parts are available as well.



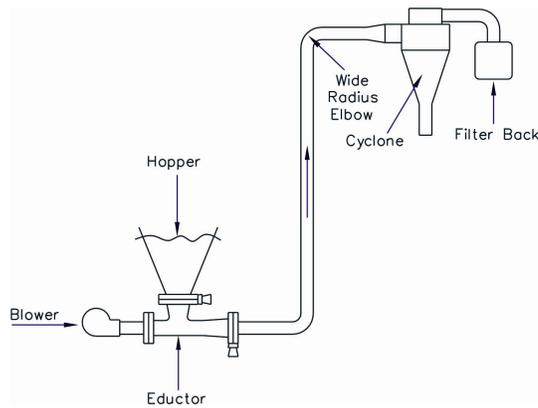
### IMPROVE PERFORMANCE OF EXISTING ROTARY VALVE INSTALLATIONS

In existing installations that employ rotary valves, solid handling eductors have been proven to improve performance and efficiency. They deliver considerable economic benefit by venting and recovering blowback air and product using existing shop air at 50-80 PSI. Solids handling eductors can recycle solids back to the feed bin or boost vent air directly into the conveyor line. They are commonly employed in both single and double airlock installations to extend air lock life.



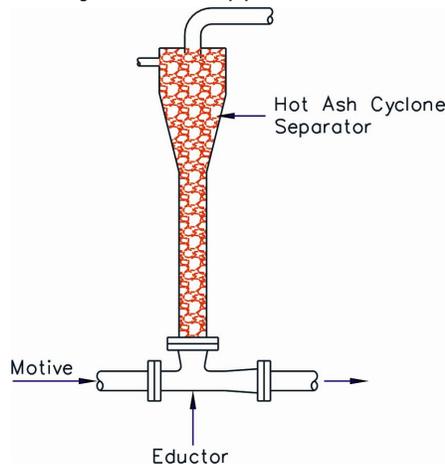
### SENSITIVE MATERIAL HANDLING

The absence of moving parts creates the opportunity to convey sensitive materials with less damage. Plastic pellets suffer less chipping, activated carbon experiences less degradation and pet foods are transported with less product loss.



### HIGH TEMPERATURE AND VARYING SIZE SOLIDS

Solids handling eductors effectively replace troublesome mechanical feed equipment to handle materials exhibiting a wide range of shapes and sizes as well as applications that employ high temperatures. Unlike mechanical devices, solids handling eductors have no moving parts and are not sensitive to the high temperatures associated with many of these applications.



### ADVANTAGES

- |                           |   |
|---------------------------|---|
| 1. No moving parts        | 5. Minimal particle degradation         |
| 2. No blow back           | 6. No maintenance is required           |
| 3. No mechanical shearing | 7. It is economical and easy to install |
| 4. 24x7 Reliability       | 8. No safety hazard                     |

## INDUSTRIES UTILISING SOLID CONVEYING EDUCTORS

Solid conveying eductors find application in all those fields where there is a need for transportation of powders or pelletized products. Following are a list of few industries in which these Eductors are used.

- |              |                 |
|--------------|-----------------|
| 1. Plastics  | 4. Food & Dairy |
| 2. Power     | 5. Foundaries   |
| 3. Chemicals | 6. Mining       |

## MATERIAL OF CONSTRUCTION

We offer the following materials as standard:

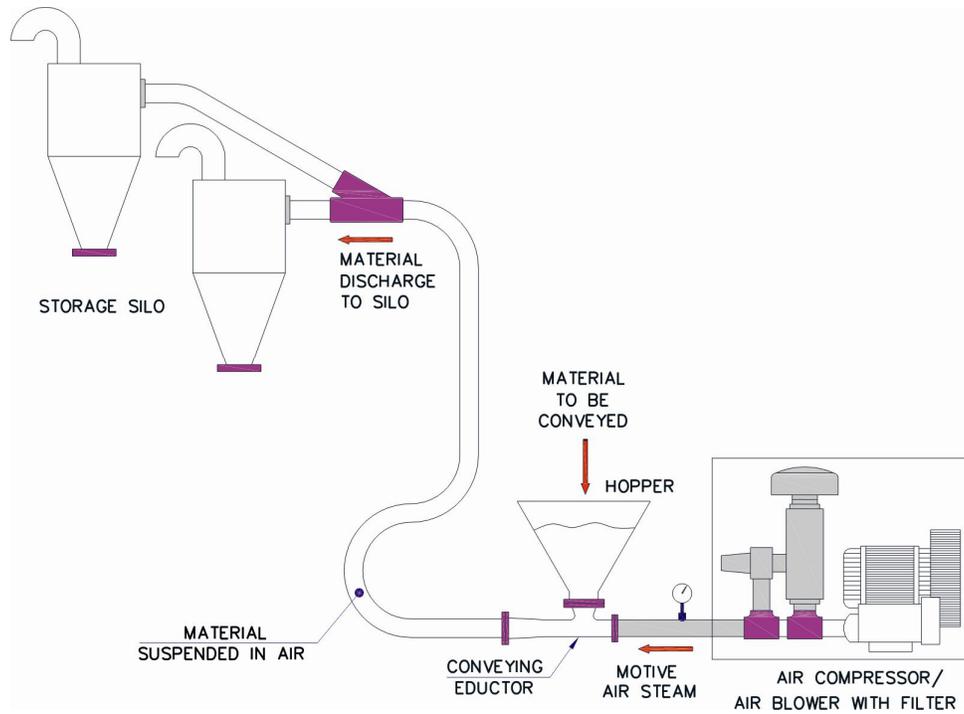
1. Carbon Steel
2. Stainless Steel Grades

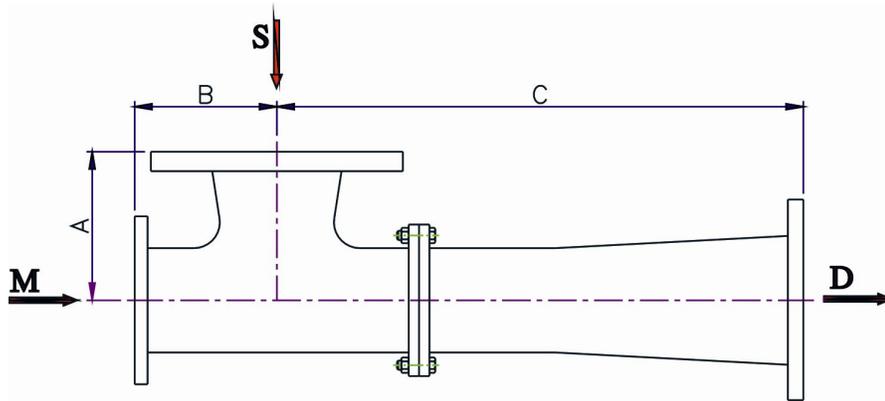
Other materials can be provided as per the Customer's requirement

## END CONNECTIONS

Flanged to ANSI B16.5 150# as a standard. We can also provide other standard and end connection as per the requirement of the Customer.

## TYPICAL INSTALLATION





| Model   | End connection (NB) |     |     | Overall Dimensions (mm) |     |     |     |
|---------|---------------------|-----|-----|-------------------------|-----|-----|-----|
|         | M                   | S   | D   | A                       | B   | C   | D   |
| E1401.5 | 40                  | 50  | 50  | 360                     | 130 | 230 | 100 |
| E1402   | 50                  | 65  | 65  | 450                     | 150 | 300 | 110 |
| E1402.5 | 65                  | 80  | 80  | 540                     | 180 | 360 | 130 |
| E1403   | 80                  | 100 | 100 | 700                     | 230 | 470 | 160 |
| E1404   | 100                 | 125 | 125 | 880                     | 270 | 610 | 200 |
| E1405   | 125                 | 150 | 150 | 1000                    | 310 | 690 | 230 |



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