

From Acetylsalicylic acid to Wheat grains

Some examples of products we have tested successfully

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|----------------------|---------------------|-----------------|---------------------|
| Acetylsalicylic acid | Chocolate powder | Ginger | Plastic granules |
| Aluminium oxide | Chromite sand | Grape-sugar | Polyethylene powder |
| Apple sauce | Cocoa beans | Graphite powder | Potato flour |
| Apricot stones | Coffee | Gun powder | Powdered blood |
| Aromic salt | Corn flour | Gypsum | Powdered resin |
| Baking-powder | Cosmetic powders | Herb tea | PVC powder |
| Bath salts | Debrisan | Iron oxide | Rice |
| Beans, wheat | Detergents | Kieselguhr | Rock-salt |
| Blueberries, frozen | Dextrin | Lactose | Salt |
| Bone glue | Enamel raw material | Liver salts | Sand |
| Buckwheat flakes | Expancel | Magnesium oxide | Sawdust |
| Calcium phosphate | Felspar | Metal flakes | Soya meal |
| Cane-sugar | Ferrous carbonate | Mica | Spices |
| Celit | Fertilizer | Milk powder | Sprayed rubber |
| Cement | Fish food | Mustard seeds | Starch |
| Chalk | Floating putty | Nickel powder | Sugar |
| Cheese powder | Fluxing material | Nutmeg | Talcum powder |
| Chewing gum | Fumaric acid | Peas | Wheat flour |
| Chicken liver | Gelatine | Penicillin | Wheat grains |

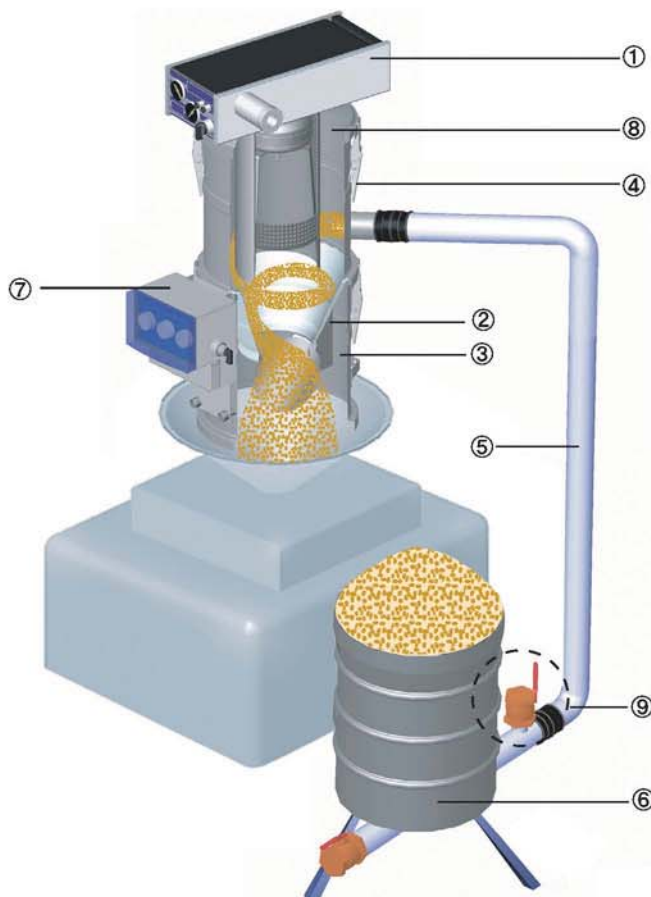
Why!! we are V-TEC Vacuum conveyor system?

- ▶ Minimal maintenance
- ▶ Low noise level
- ▶ Automatic filter cleaning system
- ▶ Low energy consumption
- ▶ Simple to install
- ▶ Compact size
- ▶ Easy to clean
- ▶ Dustless conveying
- ▶ Made of acid-proof
- ▶ Polished steel
- ▶ Easy to maintenance
- ▶ Light weight
- ▶ Easy to installation
- ▶ Quick deliver (stock)



The principle of V-tec vacuum conveyor.

1. Exhaust valve③ is closed and vacuum is created by the compressed air driven V-tec vacuum pump① a negative pressure is created in the Receiver Tank②
2. A negative pressure is created in the pipeline⑤
3. from the suction point⑥ the material with air is sucked in to the receiver tank
4. The filter④ effectively prevents dust and small particles from entering the pump.
During the suction period a small reservoir⑧ mounted in the filter unit is filled with compressed air.
5. When the material container is filled, the vacuum pump stops.
The exhaust valve of the conveyor opens and the material inside is discharged.
At the same time the compressed air in the reservoir. Is released to blow the filter clean automatically.
6. When the pump restarts, the cycle is repeated suction and emptying are normally controlled with a timer, but other control signals can also be used⑦
7. The injection valve⑨ is available as option, so that product transported is not stuck in vertical conveying section while cycle of transportation pause.



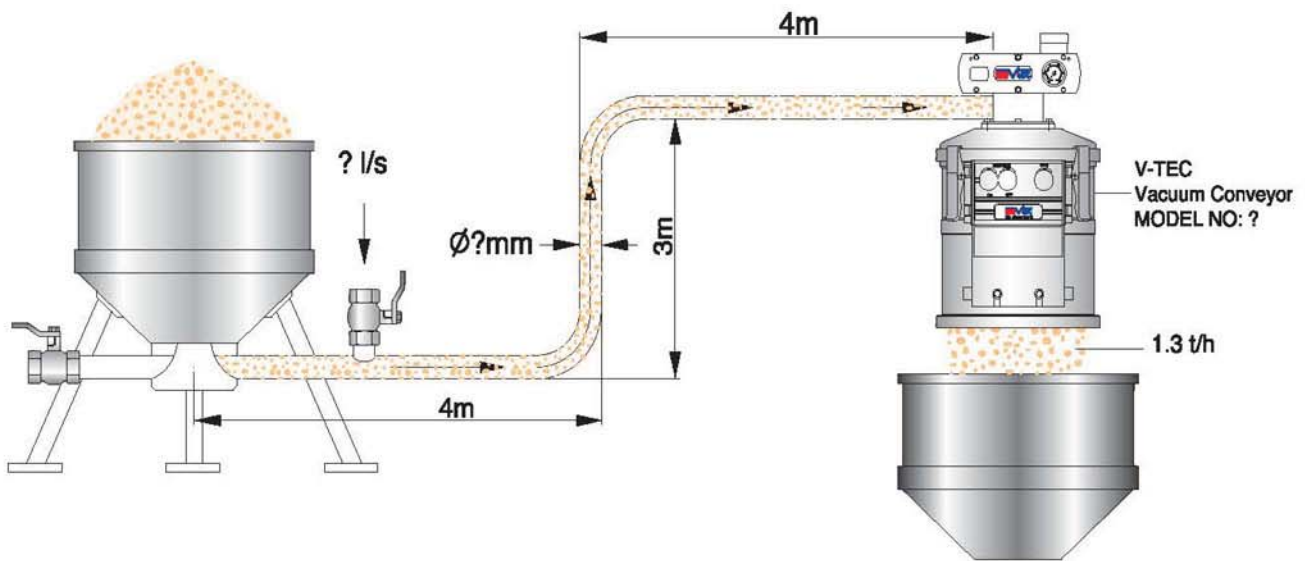
- ① V-tec vacuum pump
- ② Receiver tank
- ③ Exhaust valve
- ④ Filter
- ⑤ Pipeline
- ⑥ Suction point
- ⑦ Control unit
- ⑧ Reservoir (air tank)
- ⑨ Injection valve



Manual injection valve (Hand valve)



Automatic injection valve interlocked with Main control unit (EC : Electrical control unit)



How to select a standard conveyor?

Example)

The sugar company needs to convey 1.2 tons of granulated sugar per hour up to a mixer where the sugar is mixed with cacao powder. The mixer is located 11 meters from the Feed station.

The power requirement (Pr) of the applications is the same as the customer's capacity requirement. Here the Pr figure, which is the product of capacity and conveying distance, is calculated.

- ▶ Material : granulated sugar
- ▶ Capacity : $C = 1.2$ ton/hour
- ▶ Vertical conveying distance : $L_v = 3$ meters
- ▶ Horizontal conveying distance : $L_H = 4 + 4 = 8$ meters
- ▶ Total conveying distance : $L = L_v + L_H = 3 + 8 = 11$ meters
- ▶ Characteristics of granulated sugar :
 - Bulk density $B = 0.8$ ton/m³
 - Particle size $P = 0.2$ mm
 - The sugar is a free flowing product.

$$Pr = C \times L = 1.2 \times 11 = 13.2$$

▶ Pr : Power requirement

V-TEC vacuum conveyor "VTEC 400" will be the best choice when the $Pr = 10 \sim 20$ in this Example,

To check)

- ▶ Bulk density, $B = 0.8$ ton/m³ ($0.5 < B < 18$) → OK!
- ▶ Total conveying distance, $L = 11$ m, ($4 < L < 30$) → OK!
- ▶ Particle size, $P = 0.2$ mm ($P < 5$ mm) → OK!

Note)

The above is only a suggestion in order to facilitate the choice of conveyor.

There are many applications in the market, some with higher and some with lower values than the values mentioned here. Therefore, please contact our VTEC for more detailed product information.