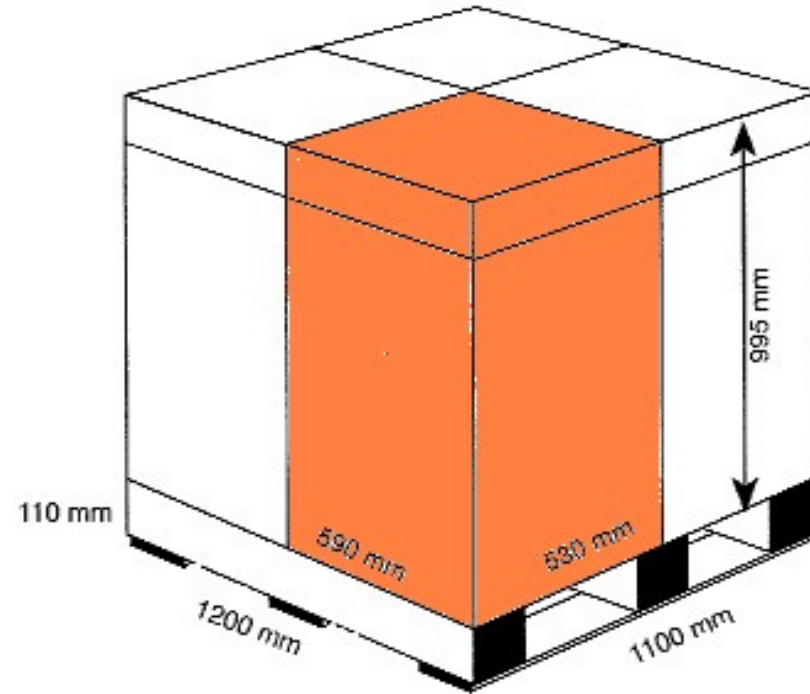


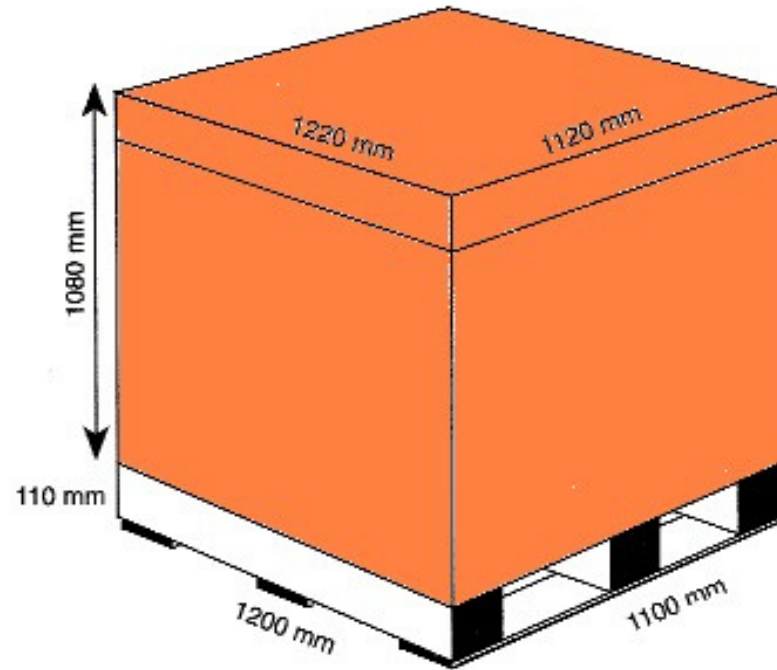
# Packaging: small box

|                |           |
|----------------|-----------|
| K1             | 20 kg     |
| K15            | 25 kg     |
| S15            | 2x12.5 kg |
| K20/K20HS      | 30 kg     |
| K25            | 40 kg     |
| K37            | 50 kg     |
| K46            | 60 kg     |
| S22            | 25 kg     |
| S28HS          | 40 kg     |
| S32LD          | 45 kg     |
| S32            | 45 kg     |
| S32HS          | 40 kg     |
| S38 (HS & XHS) | 50 kg     |
| VS5500         | 50 kg     |
| K42HS          | 50 kg     |
| S60(HS)        | 60 kg     |
| iM16K          | 45 kg     |
| iM30K          | 60 kg     |



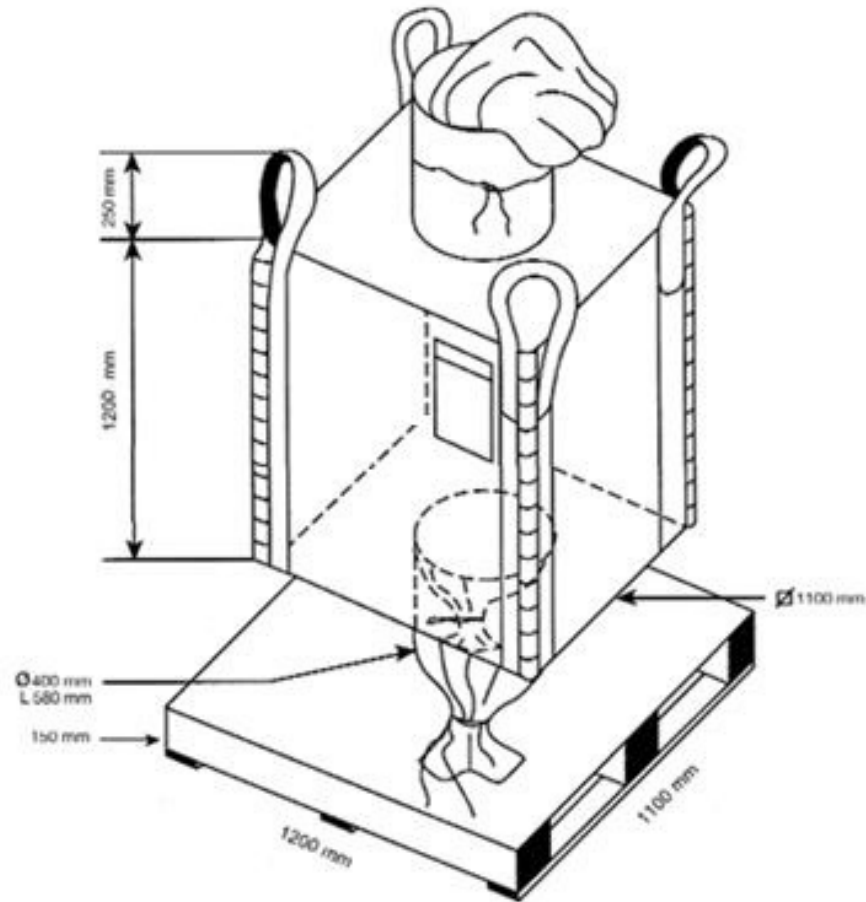
# Packaging: pallet box

|                |        |
|----------------|--------|
| K1             | 80 kg  |
| K15            | 100 kg |
| K20/K20HS      | 135 kg |
| K25            | 175 kg |
| K37            | 260 kg |
| K46            | 340 kg |
| S22            | 150 kg |
| S28HS          | 160 kg |
| S32LD          | 180 kg |
| S32            | 200 kg |
| S35            | 240 kg |
| S38 (HS & XHS) | 260 kg |
| VS5500         | 260 kg |
| S42XHS         | 280 kg |
| S60 (HS)       | 400 kg |
| iM16K          | 260 kg |



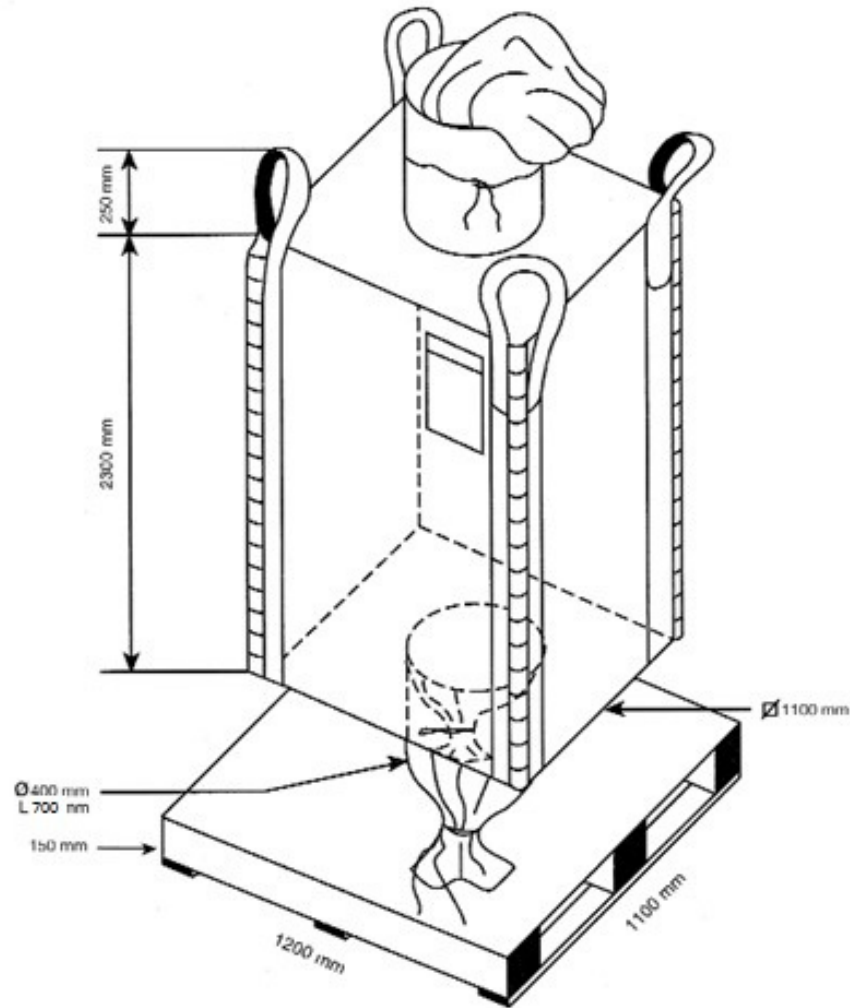
# Packaging: Half big bag

|          |        |
|----------|--------|
| K1       | kg     |
| K15      | kg     |
| K20      | 150 kg |
| K25      | 180 kg |
| K37      | 225 kg |
| S22      | 160 kg |
| S32LD    | kg     |
| S28HS    | 210 kg |
| S32      | kg     |
| S38HS    | 317 kg |
| VS5500   | kg     |
| K42HS    | kg     |
| S60 (HS) | kg     |
| iM16K    | 363 kg |
| iM30K    | 450 kg |



# Packaging: Big bag

|                |        |
|----------------|--------|
| K1             | 180 kg |
| K15            | 220 kg |
| S15            | 210 kg |
| K20/K20HS      | 300 kg |
| K25            | 380 kg |
| K37            | 560 kg |
| S22            | 300 kg |
| S28HS          | 380 kg |
| S32LD          | 440 kg |
| S32            | 480 kg |
| S32HS          | 420 kg |
| S35            | 520 kg |
| S38 (HS & XHS) | 560 kg |
| VS5500         | 560 kg |
| S42XHS         | 620 kg |
| S60HS          | 900 kg |
| iM16K          | 600 kg |



# Various Big Bags



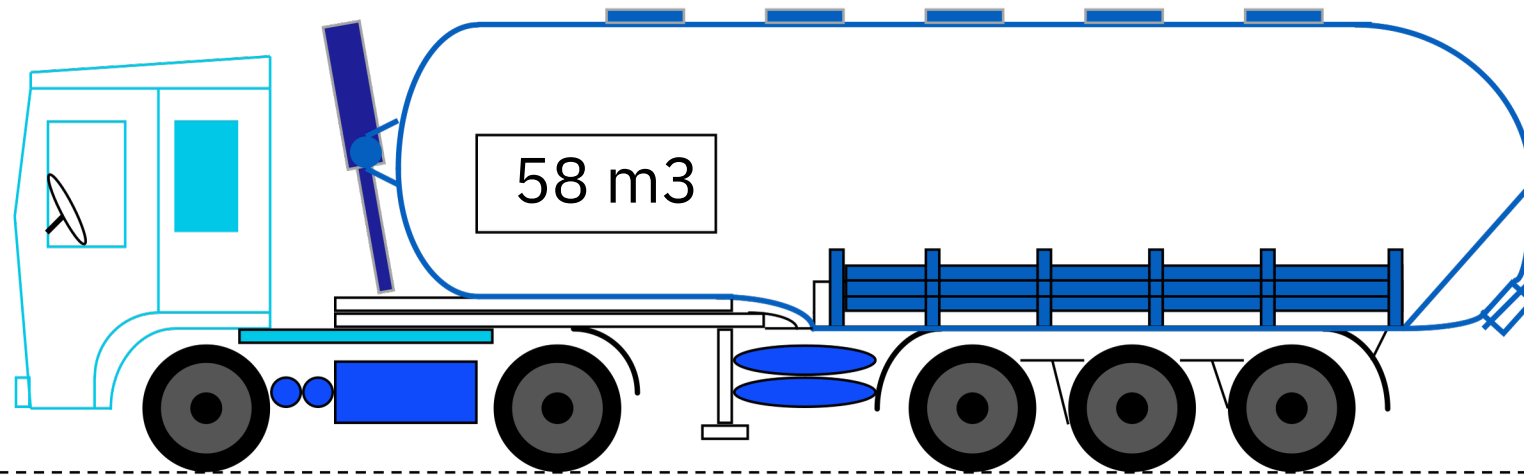
# Typical Big Bag unloading stations



# Typical Big Bag unloading stations



# Packaging: bulk trailer



|         |           |
|---------|-----------|
| K1      | 3,800 kg  |
| K15-S15 | 4,600 kg  |
| K20     | 5,900 kg  |
| S22     | 6,500 kg  |
| K25     | 7,900 kg  |
| S28HS   | 5,500 kg  |
| S32LD   | 9,100 kg  |
| S32     | 10,000 kg |

|              |           |
|--------------|-----------|
| K37          | 12,000 kg |
| S38          | 12,000 kg |
| S38-HS-XHS   | 12,000 kg |
| VS5500       | 12,000 kg |
| K42HS-S42XHS | 13,500 kg |
| iM16K        | 11,500 kg |
| K46          | 15,000 kg |
| S60 (HS)     | 20,000 kg |
| iM30K        | 13,000 kg |





# Intermodal powder box



An intermodal portable tank consists of a single, cylindrical vessel (the tank body) within a rectangular steel framework. The frame is built according to International Standards Organization (ISO) specifications. The most common frame size is 30ft corresponding to 53 m<sup>3</sup> bulk capacity or using a 40ft frame size corresponding to 55 m<sup>3</sup> bulk capacity



# Intermodal powder box 53m<sup>3</sup>

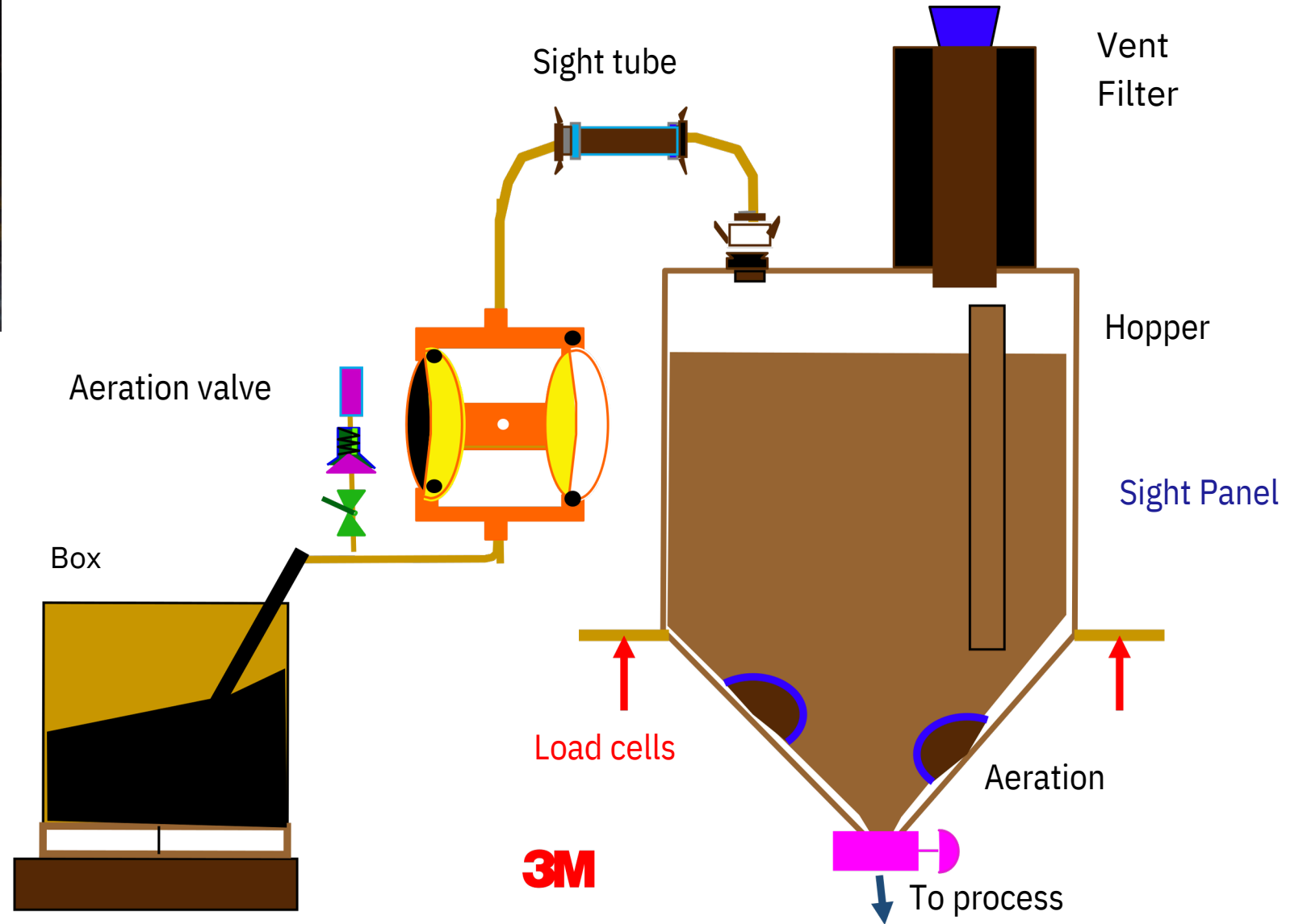
|              |          |
|--------------|----------|
| K1           | kg       |
| K15-S15      | 4,000 kg |
| K20          | 5,400 kg |
| S22          | kg       |
| K25          | 6,700 kg |
| S28HS        | 4,600 kg |
| S32LD        | 7,800 kg |
| S32          | kg       |
| K37          | 9,800 kg |
| S38          | 9,800 kg |
| S38-HS-XHS   | 9,800 kg |
| VS5500       | 9,800 kg |
| K42HS-S42XHS | kg       |
| K46 -iM16K   | kg       |
| S60 (HS)     | kg       |
| iM30K        | kg       |



# Unloading into a Silo



# Pump Transfer



# Box Tilter



Load position



Mid tilt position



Full tilt position

# Unloading from the top of the bag

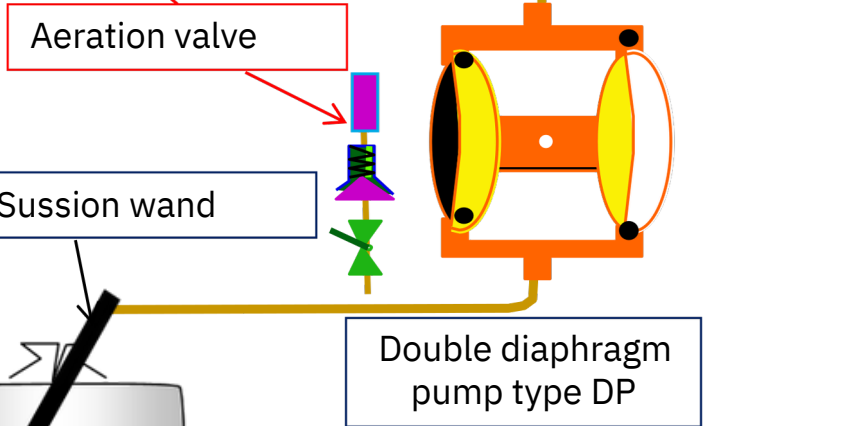
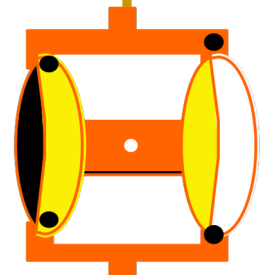
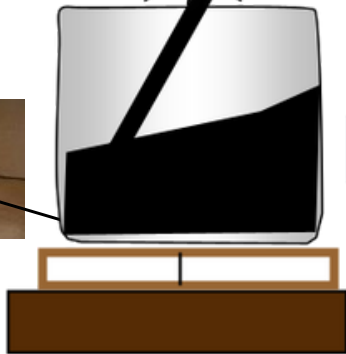
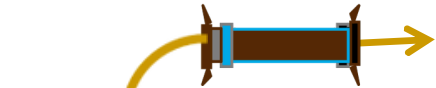


Aeration valve

Suction wand

Double diaphragm pump type DP

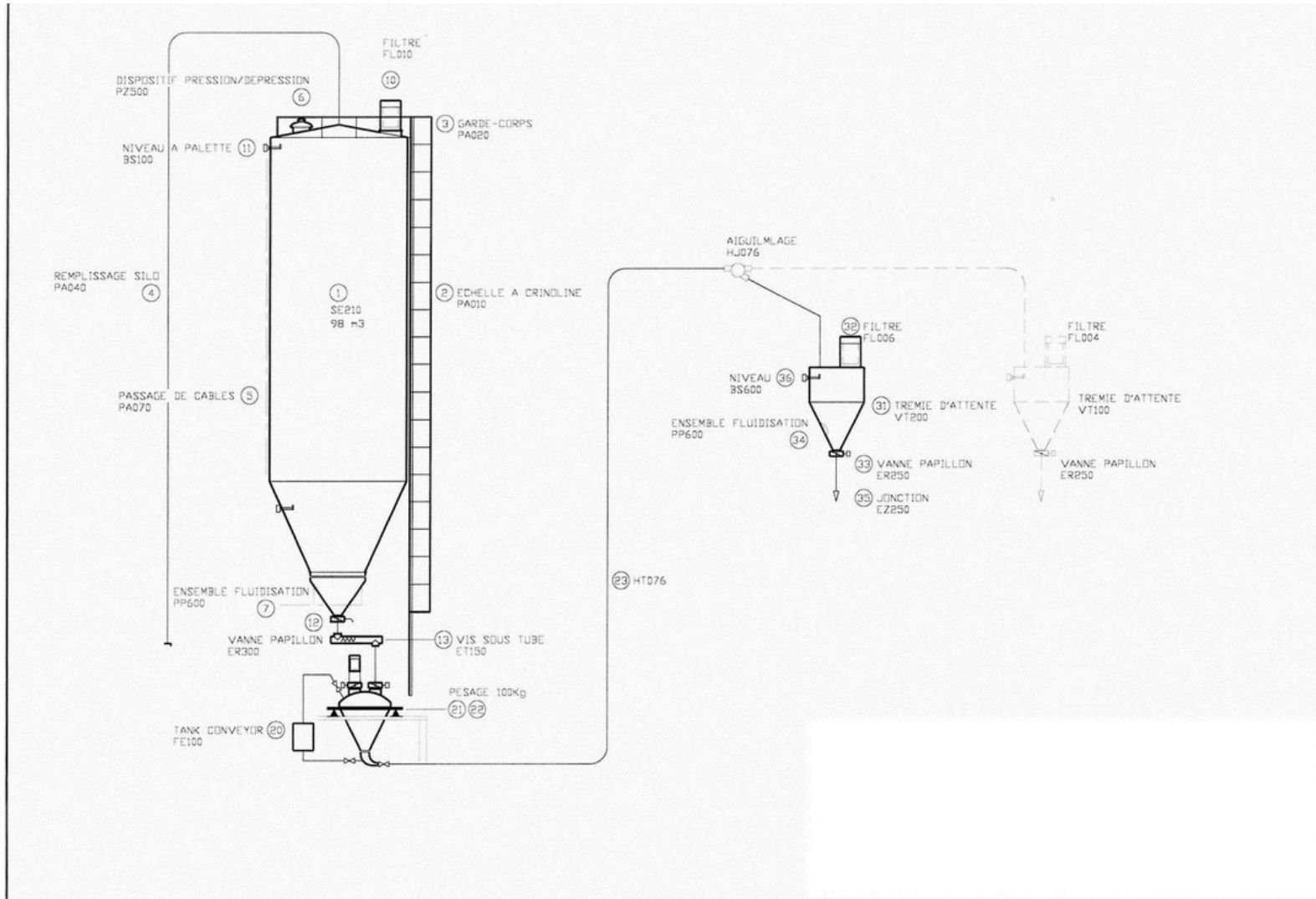
Big bag



# Unloading from the top of the bag

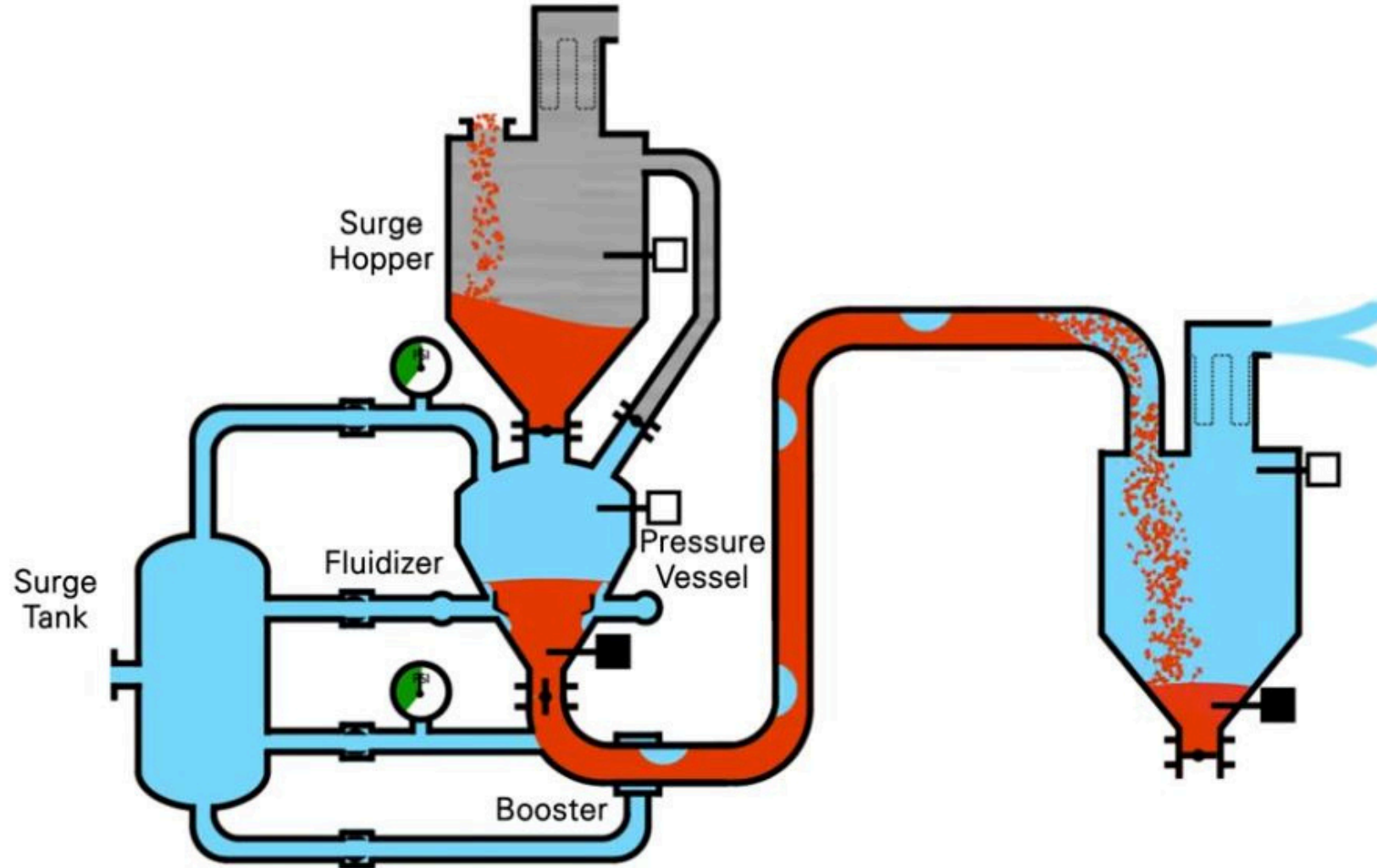


# Unloading from silo using a dense phase system

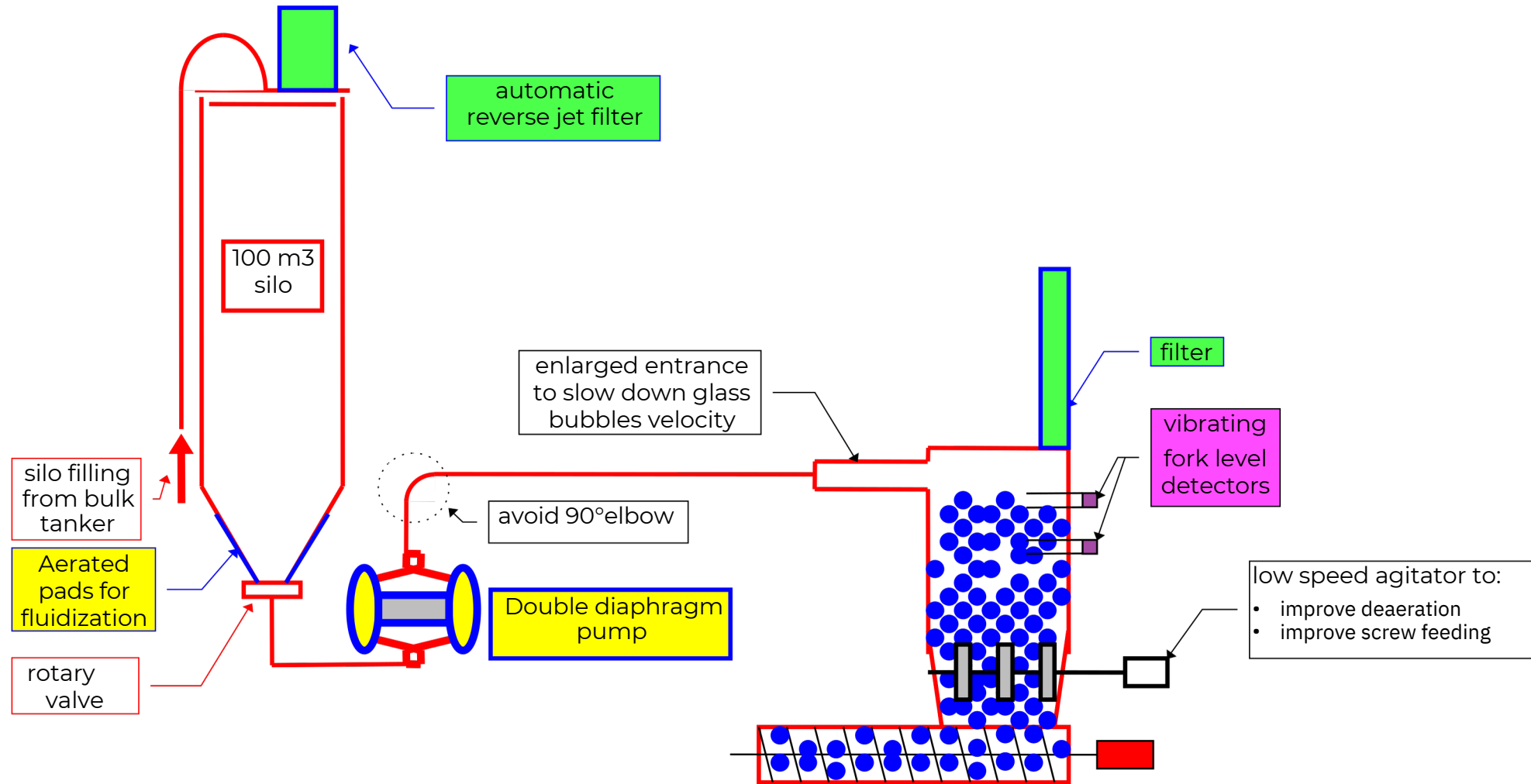




# Conveying Glass Bubbles using a dense phase system

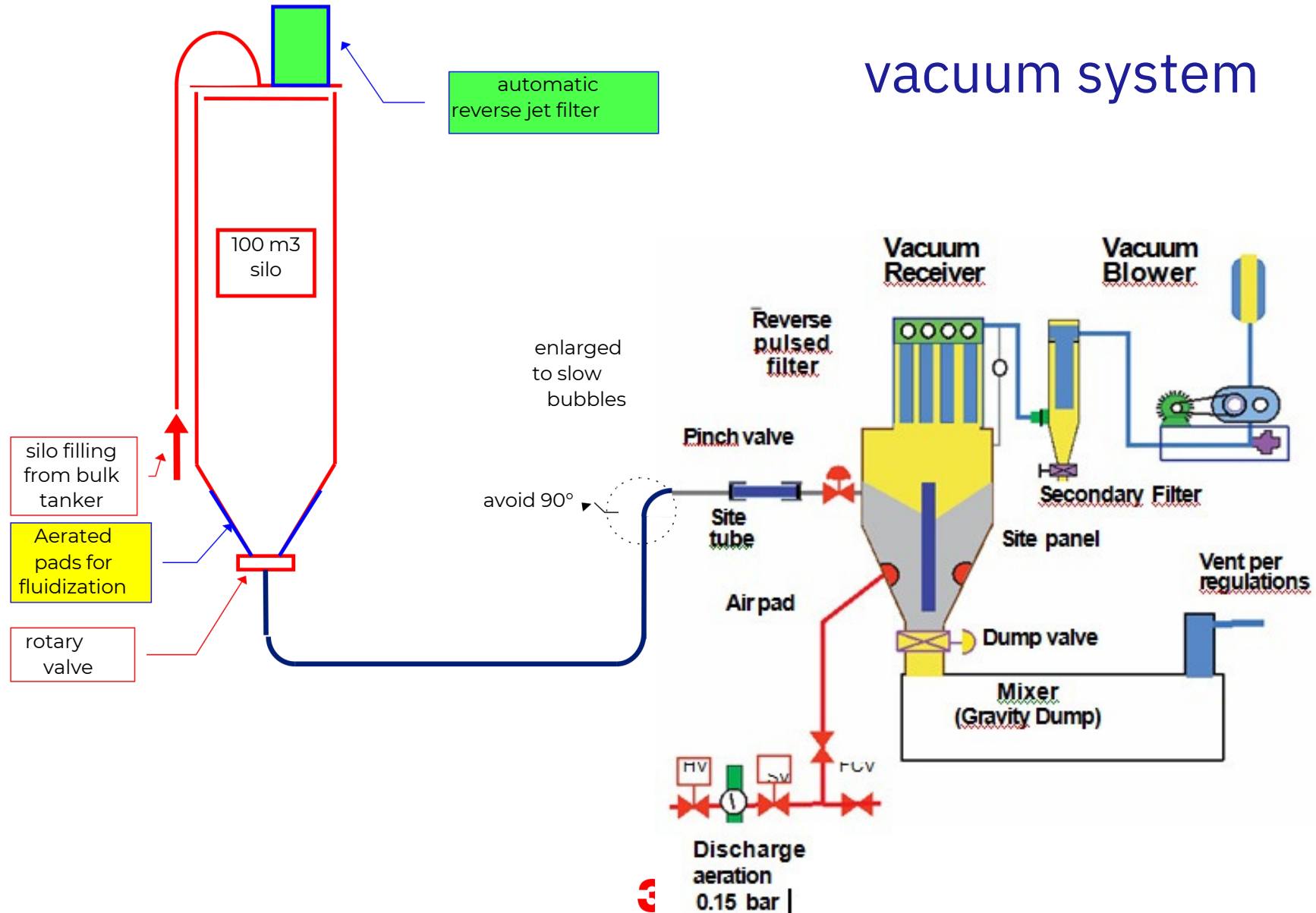


# Unloading from silo to continuous process using a diaphragm pump



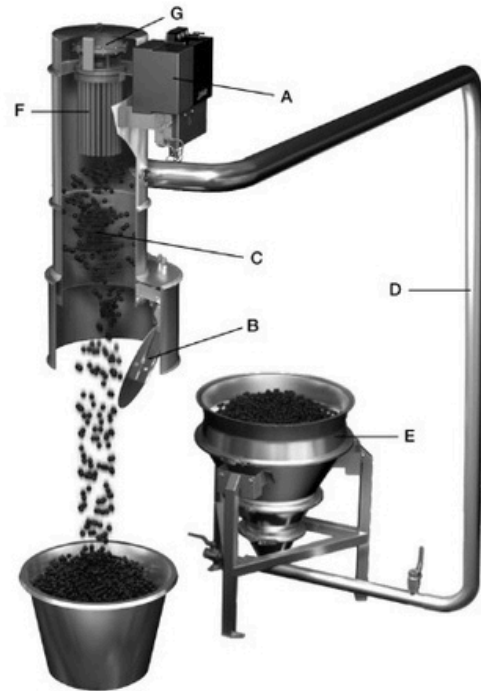
*volumetric or loss-in-weights crew feeder*

# Unloading from silo using a diluted phase



# Vacuum receiver

## FUNCTION



1. Vacuum is created with compressed air through COAX® technology (A). The pump can be automatically controlled.

2. The bottom valve (B) closes and the vacuum increases in the container (C) and the conveying line (D).

3. The powder is carried away from the feed station (E) into the conveying line and then to the container.

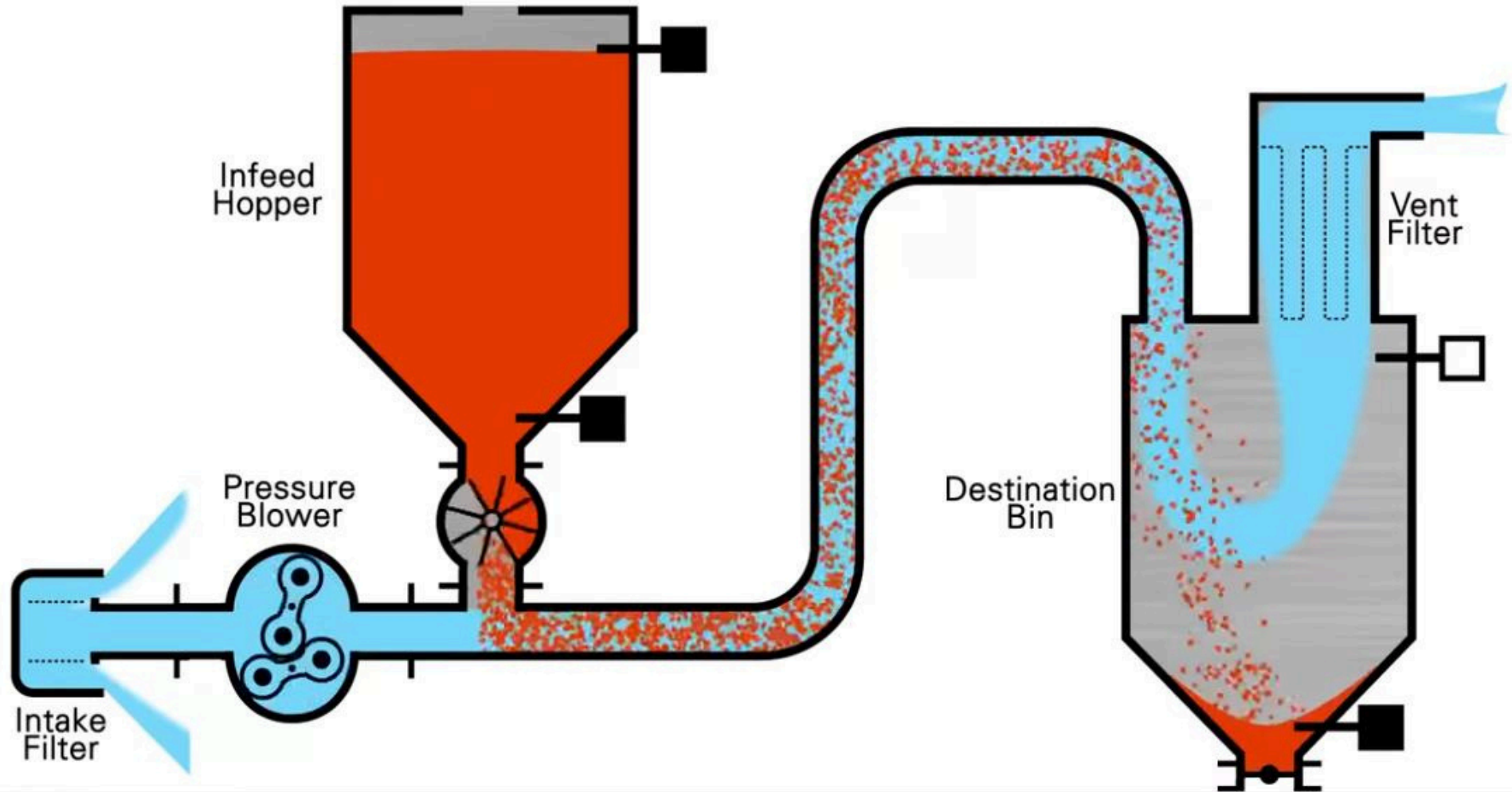
4. The filter (F) protects the pump and the surrounding area from dust and small particles.

5. During the conveying time, the air shock tank (G) is filled with compressed air.

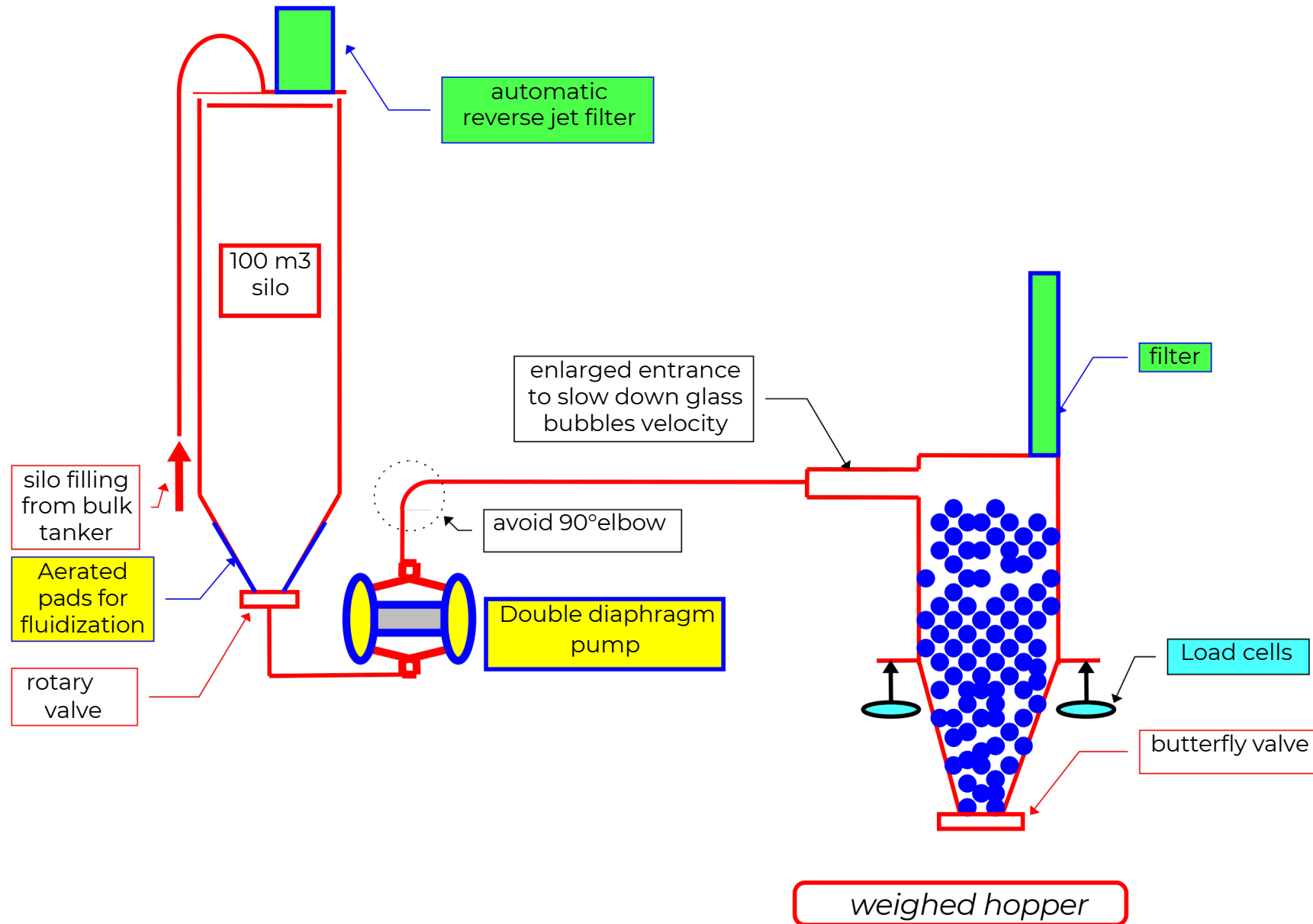
6. At a preset time, the pump and the conveying are stopped and the bottom valve (B) is opened. The powder is discharged at the same time as the air shock is activated and the compressed air cleans the filter from dust and small particles.

7. When the pump starts again, this process is repeated and a new cycle starts. The suction time and emptying times are normally controlled by a pneumatic or an electric control system.

# Diluted phase transfer using a blower



# Unloading from silo to a batch process using a diaphragm pump



# Pump Transport

## Procedure for Box Emptying

1. Turn on transport system
2. Purge
3. Slowly insert wand into box at one corner
4. Move wand diagonally across to other corner
5. When box is half empty tilt box
6. When needed, vibrate tilt table
7. Near the end, gather and collect plastic liner, forcing the material to wand pick up point
8. When finished, pump and the conveying lines

# Pneumatic Conveying Systems

## Other Suggested handling practices

- Always use dry air
- Flexible lines, otherwise minimize 90 degree turns
- Ground all components of conveying system
- Slope lines towards the receiving vessel
- Install sight tubes
- Avoid decrease of line size in material conveying line;