**Flow Aid System**

## Troubleshooting Phenomena

**Bridging**
Bridging occurs when materials cling to the wall or compact above the discharge opening of the lower part in the hopper, and the flow of materials in the upper part is interrupted.

**Arching**
Arching occurs when materials in the lower part of the hopper flow out from the discharge opening, and an arch strong enough to support the entire headload in the hopper is formed.

**Adherence to Wall**
Clinging materials and also materials easily influenced by the moisture and the temperature adhere to the wall and refuse to flow.

## Example of Typical Flow Aid System Installation

![Diagram of a typical flow aid system installation](image)

## Operating Principle

1. Compressed air delivered to Knocker is supplied into the valve chest at first, pushes the valve down, and is accumulated in the compressed air chamber.

2. On operating the 3-way valve and exhausting air in the valve chest, compressed air in the chamber makes the valve travel upward.

3. As soon as the valve moves, compressed air in the chamber forces piston down energetically, and beats base plate, its percussion force eliminates clinging and blocking of materials.

## Knockers / Reference of Installation

Clinging and compacted materials are broken loose by the impact force of the knocker piston. The impact force can be adjusted as necessary by adjusting the air pressure.

**Features**
1. Impact force can be adjustable by input pneumatic pressure (0.3Mpa ~ 0.7Mpa)
2. Relay piping function allows operation of multiple knockers by one valve.
3. Simple design, excellent durability and easy maintenance.
4. Simple working principle eliminates complicated operation circuit. Remote operation is also easy.

**Applications**
- Food and pharmaceutical plant
- Petrochemical plant
- Iron works
- Coal Banker
- Flour mill plant
- Chute
- SS304 Storage tank
- Plastic pellet
- Chute
- Chute