

EXEN

EXEN Corporation Tokyo, Japan
Founded in 1915

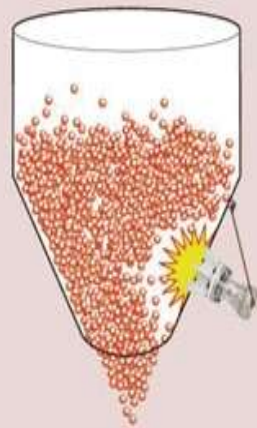
Air Knocker

For material flow problems.



⚠ Danger!

Put Down
The Hammer



Air Knocker

No more **Banging!**

For material flow problems

EXEN Original Pneumatic Hammering Technology



Who we are?

Company name : EXEN Corporation

US SALES: MATERIAL PROCESS SOLUTIONS

Tel: 318-230-2133

Website: www.materialexperts.net

Email: info@materialexperts.net

Global Sales volume(2017): USD 34.5 million

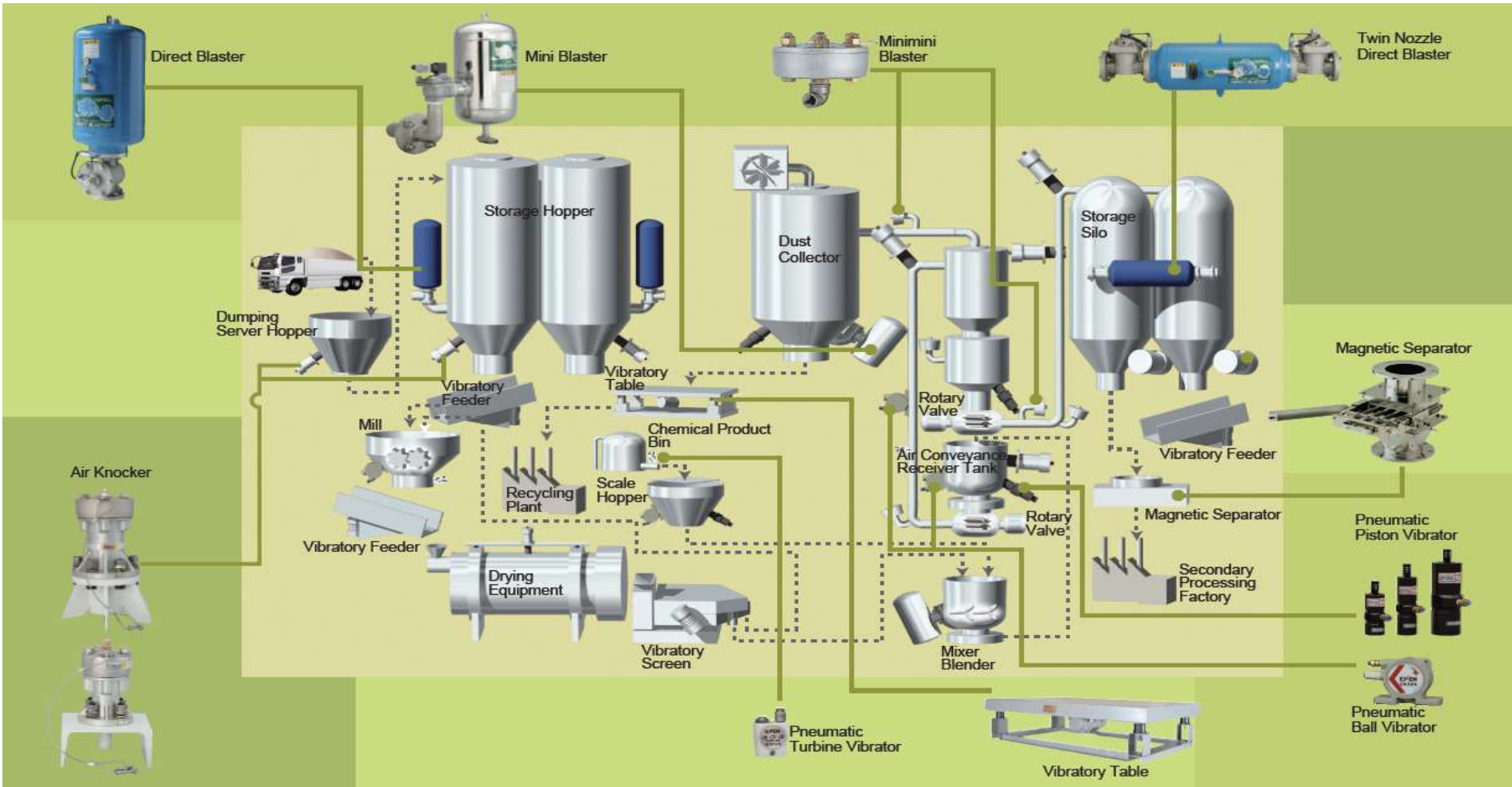
What we do?

We can provide the best solution for material flow problems with our products and the years of experience.

1. Industrial products for material flow problems

**Products: Air Knocker, Pneumatic vibrator, Electric vibrator
Air blaster, Walk behind sweeper and Magnet separator.**

EXEN products are used in various places to solve clogging problems.



TROUBLE PHENOMENON



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.



RATHOLING

Ratholing occurs when materials flow only above the exit, and form a tube that leaves the hopper filled with "dead" materials which will not move.



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.

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Do you have any Clogging problems for equipment at your factory?

AIR KNOCKER will be successfully able to solve your clogging problems.
Big impact force of air knocker can be useful for the users who has clogging problems.

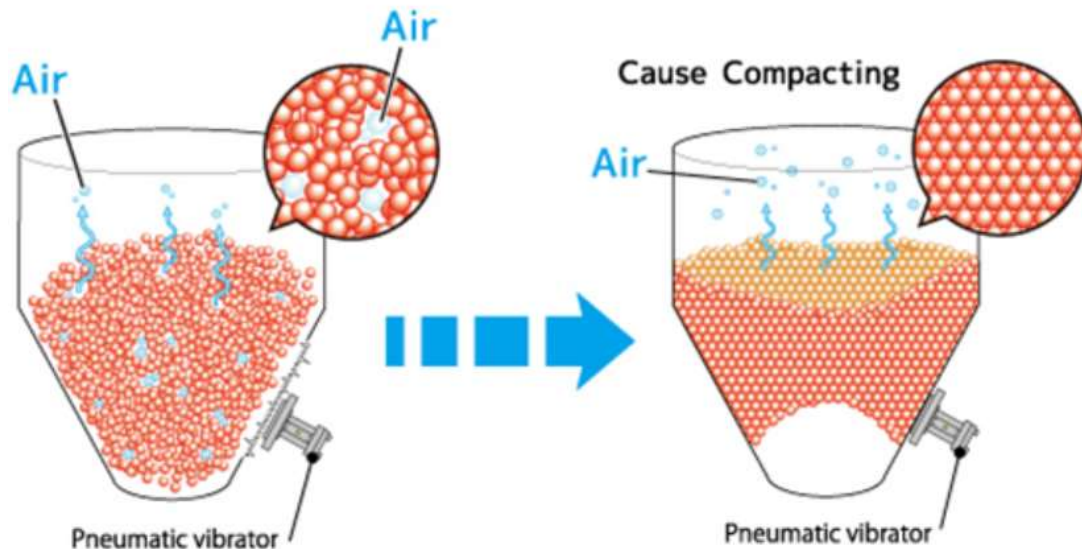


Clogging problems?

EXEN can provide

Solve your clogging problems

1. If you cannot solve material flow problems with using pneumatic/ electric vibrators or vibratory discharger, **AIR KNOCKERS** can provide a solution of for your flow problems. For use in fine powders, sticky, or damp products such as toner, flour, salt, sugar etc.
2. **AIR KNOCKERS** do not require any lubricant.
3. Using pneumatic controller, electricity is not required.
4. Eliminates Banging hopper, silo, pipe even when using other flow aid devices.



Clogging problems?

EXEN can provide

Provide uncontaminated method

If you can not use air cannon which blasts a pneumatic air directly to inside hopper, silo and so on because of contamination issue. Especially for food, pharmaceutical, chemical factory

Decrease your air volume and electricity by 30%

Switching to our Air Knocker from pneumatic vibrator in the similar class alone will greatly save you electric bills on compressors that account for 30% of electricity usage.

In comparison to piston vibration type in the similar class, you will be able to realize 85% reduction of air consumption. (In-house comparison)

Model	CFM 60PSI
EXEN Air Knocker RKV60PA	MAX 1.2 (0.02 X 60 times)
VS Company A Pneumatic Vibrator	7.4



**85% reduction of
air consumption**

Clogging problems?

EXEN can provide

Solve your pipe clogging problems.

Simple add – on to the pipe with using U-bolt.

Welding is unnecessary - bolt on and go!

Since welding is unnecessary, it can be relocated to other problem areas!



Clogging problems?

EXEN can provide

Provide stainless steel made and sanitary spec flow aid device.

Air knocker can be used at place where requires stainless steel made product and sanitary spec with using ferrule cramp.
Perfect for food, pharmaceutical, chemical factories.

Stainless steel air knocker
Salt factory



New Product!



Sanitary spec air knocker



Clogging problems?

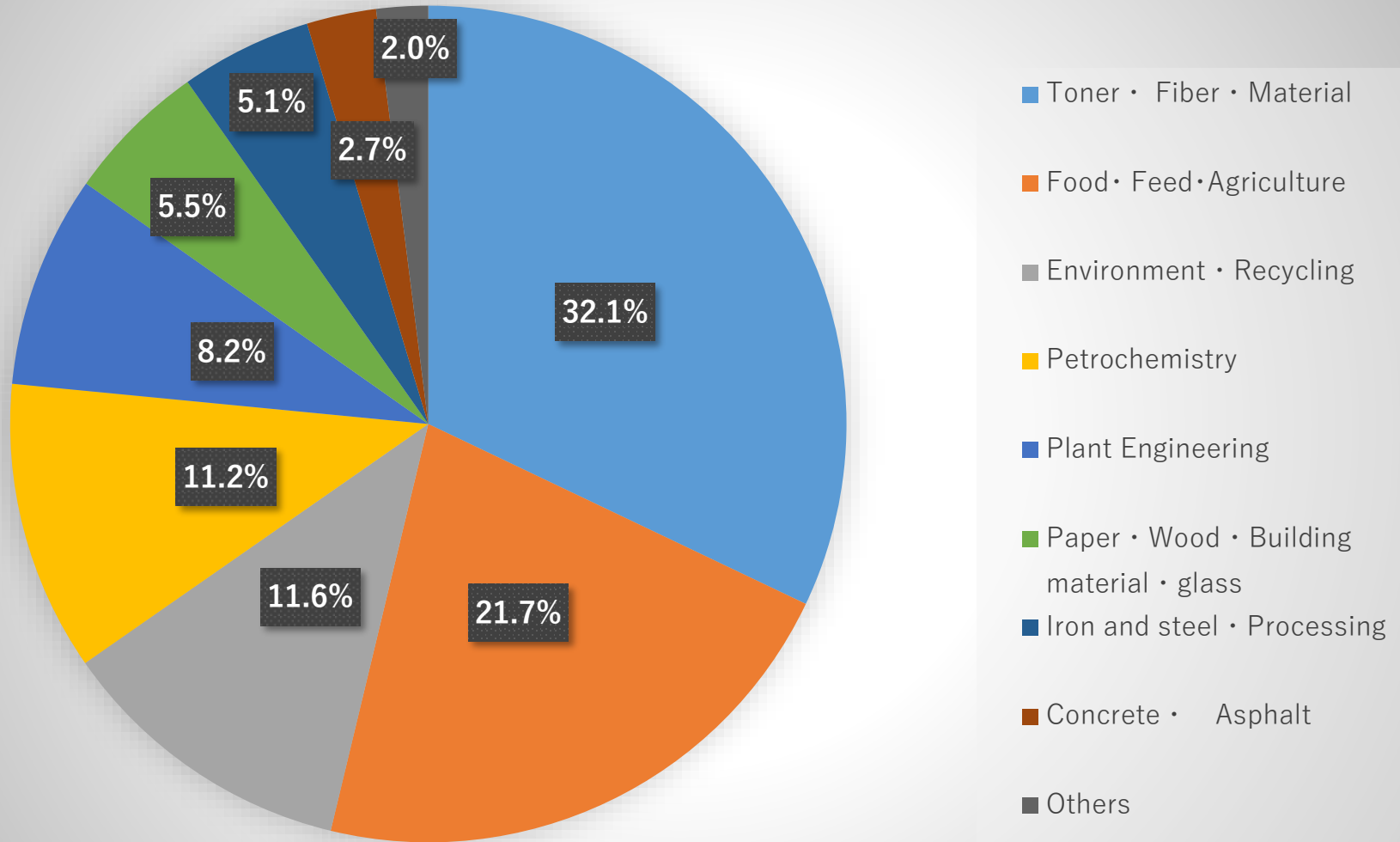
EXEN can provide

Reduce accident rate, labor costs and hoppers damage



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Delivery record



Air Knocker features and working principle

Features

- 1. Impact force can be adjustable by pneumatic pressure.
3 – 7 Bar (44 – 102 PSI)**
- Air knocker can correspond to change powder/ bulk condition such as moisture and stickily only by adjustment a pneumatic pressure.

Ex: Air knocker model RKV30PA's impact force
3 bar (44PSI) = 4.3(3.2) N·m (lbf·ft)
7 bar (102PSI)= 8.3 (6.1) N·m (lbf·ft)

*** Impact force can be almost double only by adjustment a pressure!!**

RKV model

RKD model

RKVS model

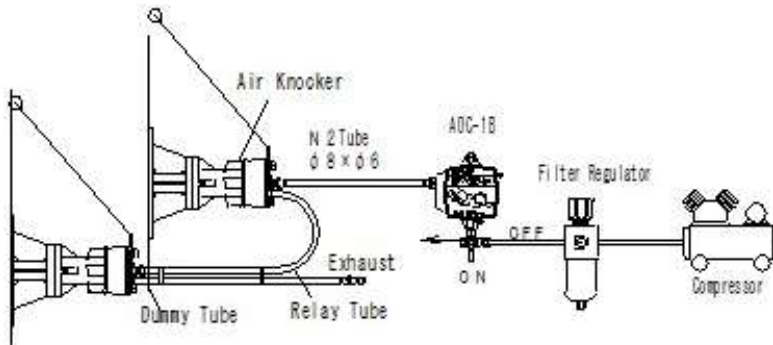


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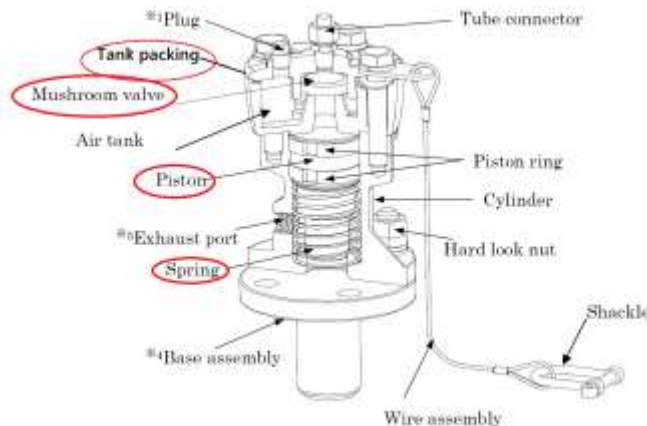
2. Relay piping function allows operation of multiple knockers only by one valve.

With using pneumatic controller AOC-1B, It can allow to operate only with compressed air. Does not require any electricity.



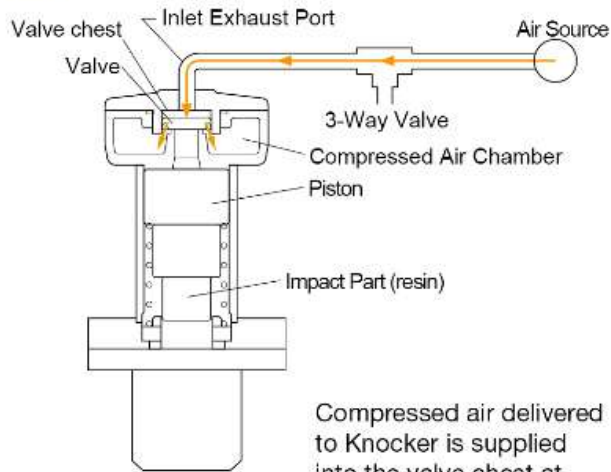
3. Simple design, excellent durability and quick maintenance.

*Quick maintenance: consumption parts are only 4 parts.



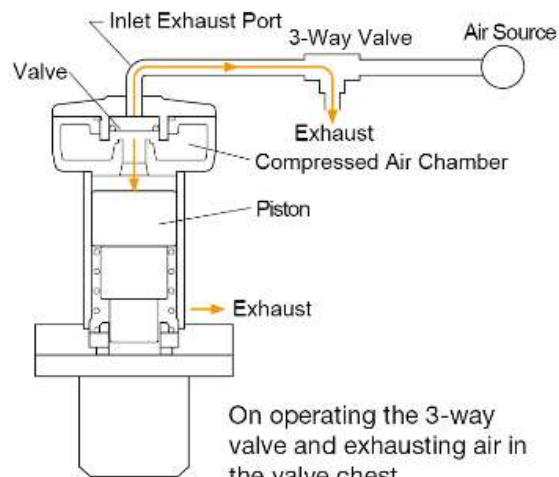
Working principle

1



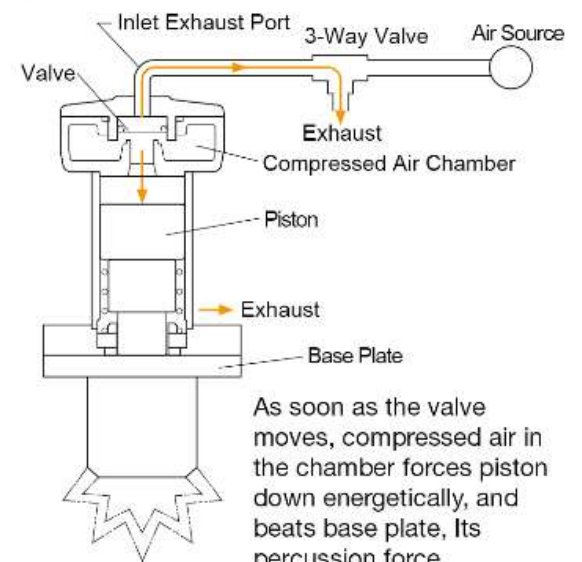
Compressed air delivered to Knocker is supplied into the valve chest at first, pushes the valve down, and is accumulated in the compressed air chamber.

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.

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Thank you.

**We can provide the best solution
for your clogging problems.**