

We are here to help you improve your production line efficiency and reduce CO₂ emissions.

Efficiency



**Reduced
maintenance time**

Energy-saving



**Decreased air blow air
consumption without
sacrificing work quality**

Pneumatic Optimization

**Extended pneumatic
equipment life**



**Long
Service Life**

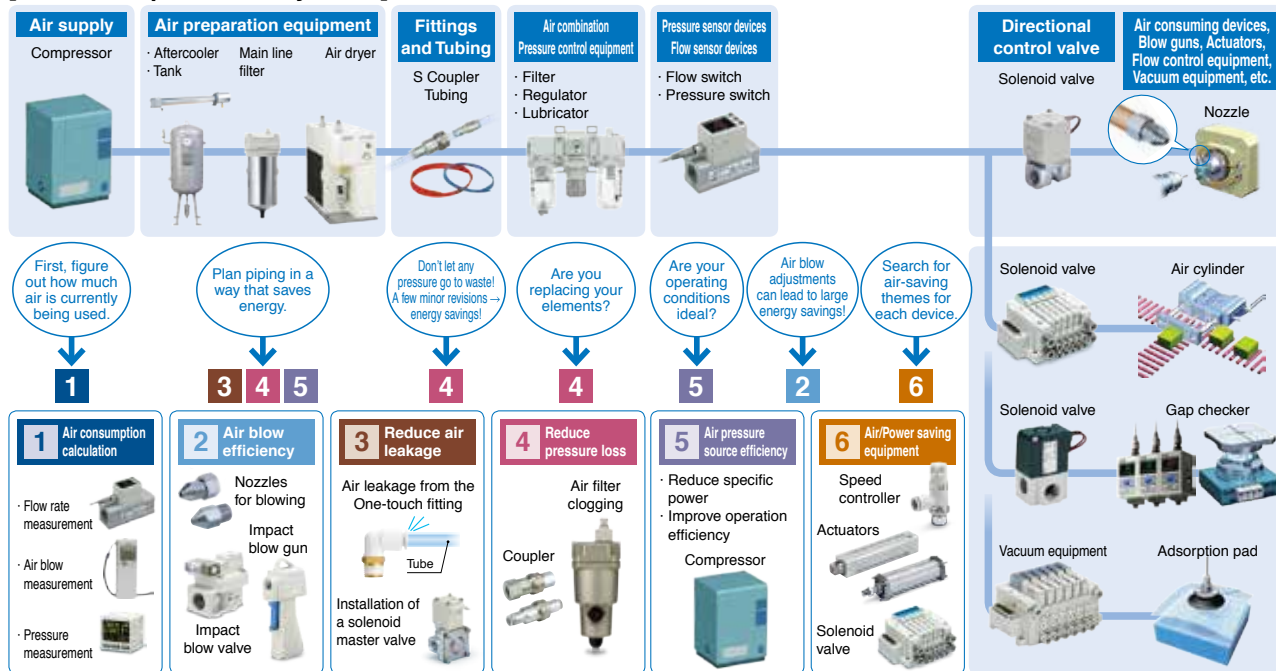
**Reduced silencer
exhaust noise**



Safety

We have continued to work with our customers to solve pneumatic equipment issues of **efficiency, energy saving, product longevity, and safety** based on the three actuals philosophy.

[A series of pneumatic systems]



Problem solving process

1 Preliminary meeting



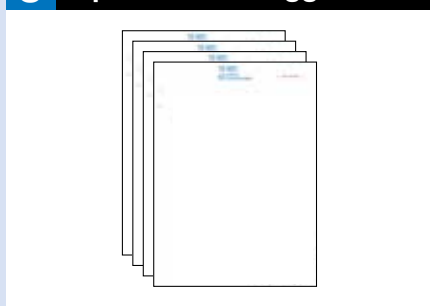
An SMC sales representative visits and listens to the problem.

2 Equipment survey



We will investigate the operational status of pneumatic equipment and air blow.

3 Optimization suggestions



Based on the survey, optimization suggestions will be submitted in a report.

4 Follow-up of improvement activities

Technical training seminar



Component dissolution survey




Grease deteriorates or is washed away.

In order to realize the "optimization proposal," we will provide technical support such as component dissolution workshops, air pressure surveys, flow rate and pressure measurement, component selection, and follow-up activities until your improvement goals have been met.

Examples of efficiency improvements and reductions in CO₂ emissions

↻
Efficiency

“I want to shorten the maintenance time for this product.”




Lever Type
SUP Stop Valve Spacer

A lever has been added to manual override button!
Solenoid valves can be replaced individually without shutting off the main pressure!

Solenoid valves can be replaced individually!

The solenoid valves can be replaced individually without stopping the equipment during maintenance.




<Application example>
For air operated valves, such as sanitary valves, and automatic valve control


SY Series

🌿
Energy-saving

“I want to reduce the air consumption of air blow applications without lowering the workload.”



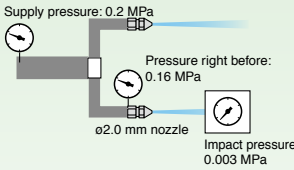
Nozzle with self-align fitting
KN Series



Nozzle with male thread
KN Series

Energy-saving nozzle to reduce flow rate * Depends on conditions.

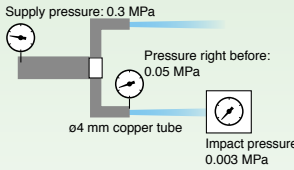
After improvement



Supply pressure: 0.2 MPa
Pressure right before: 0.16 MPa
Impact pressure: 0.003 MPa
ø2.0 mm nozzle

Air consumption per nozzle:
88 L/min (ANR)

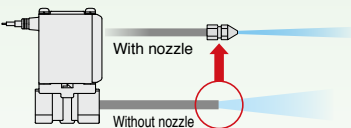
Before improvement



Supply pressure: 0.3 MPa
Pressure right before: 0.05 MPa
Impact pressure: 0.003 MPa
ø4 mm copper tube

Air consumption per copper tube:
192 L/min (ANR)

Install a suitable nozzle where soft copper piping, etc., is cut and used as is to conduct blow.



With nozzle

Without nozzle

Conditions Blow time: 2 sec. Annual operating cycles: 900000

54% reduction

5,309 m³/year (ANR)
CO₂ emissions: 310 kg/year
365 kg reduction in annual CO₂ emissions

Energy-saving Model

←

Existing Model

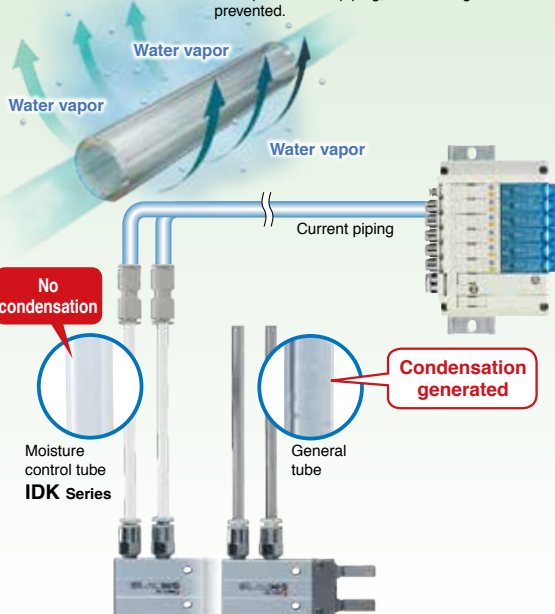
11,520 m³/year (ANR)
CO₂ emissions: 675 kg/year

↑
Long Service Life

“I want to extend the life of our pneumatic equipment.”

Prevents condensation in piping

When a small cylinder is operated at a high speed, grease flows due to the condensation generated in the piping. This results in the premature wearing of the cylinder seal, which can lead to a malfunction. By using a moisture control tube to remove the water vapor from the piping, the flow of grease can be prevented.



Water vapor

Water vapor

Water vapor

Current piping

No condensation

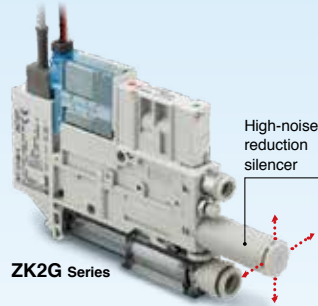
Condensation generated

Moisture control tube
IDK Series

General tube

🔊
Safety

“I want to reduce the silencer exhaust noise of our vacuum ejectors.”



High-noise reduction silencer

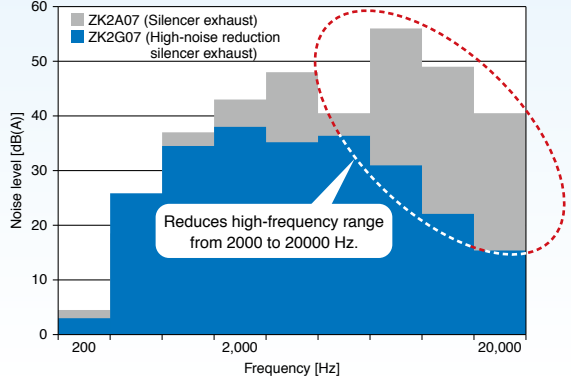
ZK2G Series

Vacuum ejector with high-noise reduction silencer

Unpleasant frequencies are removed while maximizing vacuum performance by using a dedicated silencer with improved silencing capabilities.

Low noise **46 dB(A)***1

*1 Nozzle size: ø0.7 (Under SMC's measurement conditions)



Noise level [dB(A)]

Frequency [Hz]

Reduces high-frequency range from 2000 to 20000 Hz.

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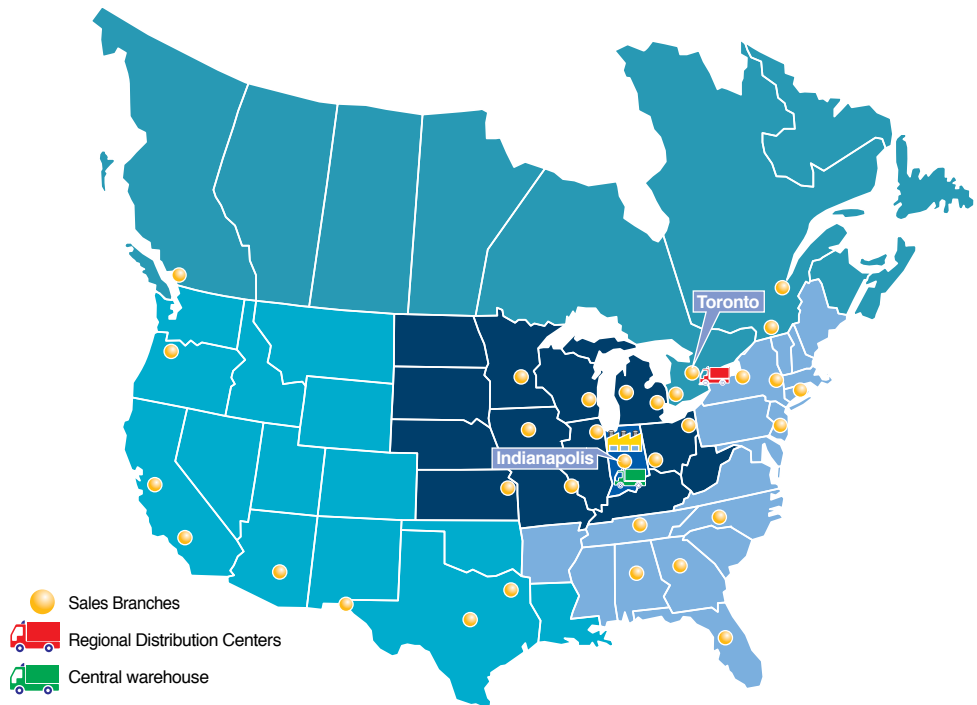
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