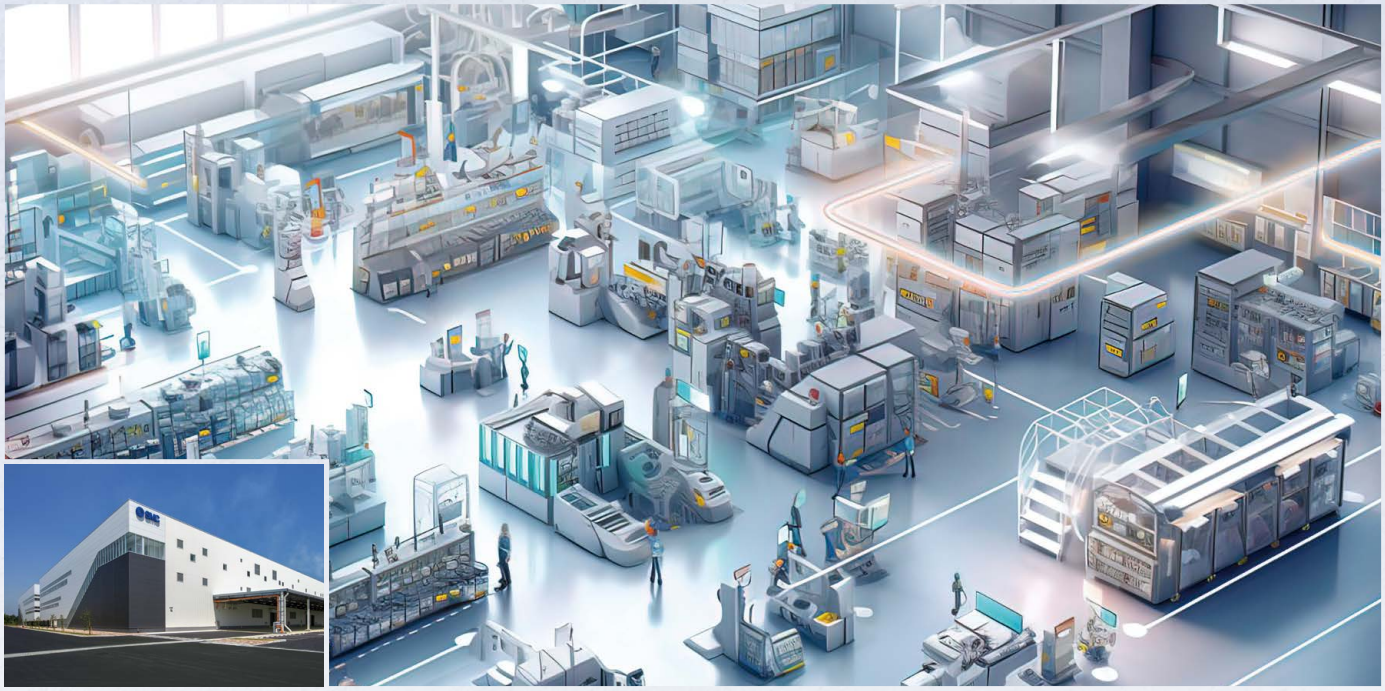
4BAR factory

Change the pressure to change the future.

P-E25-19

4BAR factory Concept

A 4BAR factory is a new SMC concept that significantly reduces CO_2 emissions and power consumption by reducing the supply pressure of compressed air used in factories. It represents an approach that strives to achieve a sustainable society by working with customers to optimize (reduce) pressure to the required level where needed.

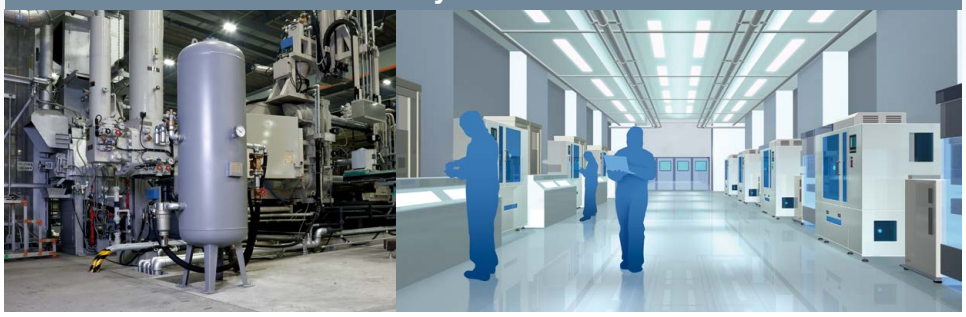


Reducing pressure in SMC's own factories has already begun.

* SMC factories are aiming to achieve a 4-bar line pressure (0.4 MPa).

■ We work with our customers to help them optimize operations (reduce pressure) on-site.

Facility assessment



Meetings

■ We provide support to customers and equipment/ device manufacturers the world over.

Steps toward achieving factory-wide optimization (pressure reduction)

We work together with customers on-site to provide solutions for pressure optimization.

STEP 1

Visualization of air flows

- Air consumption calculation and analysis
- What pressures are demanded by which machines?
- Which areas consume the highest amount of air flow rate in operation?
- What air consumption is required while in standby?

STEP 2

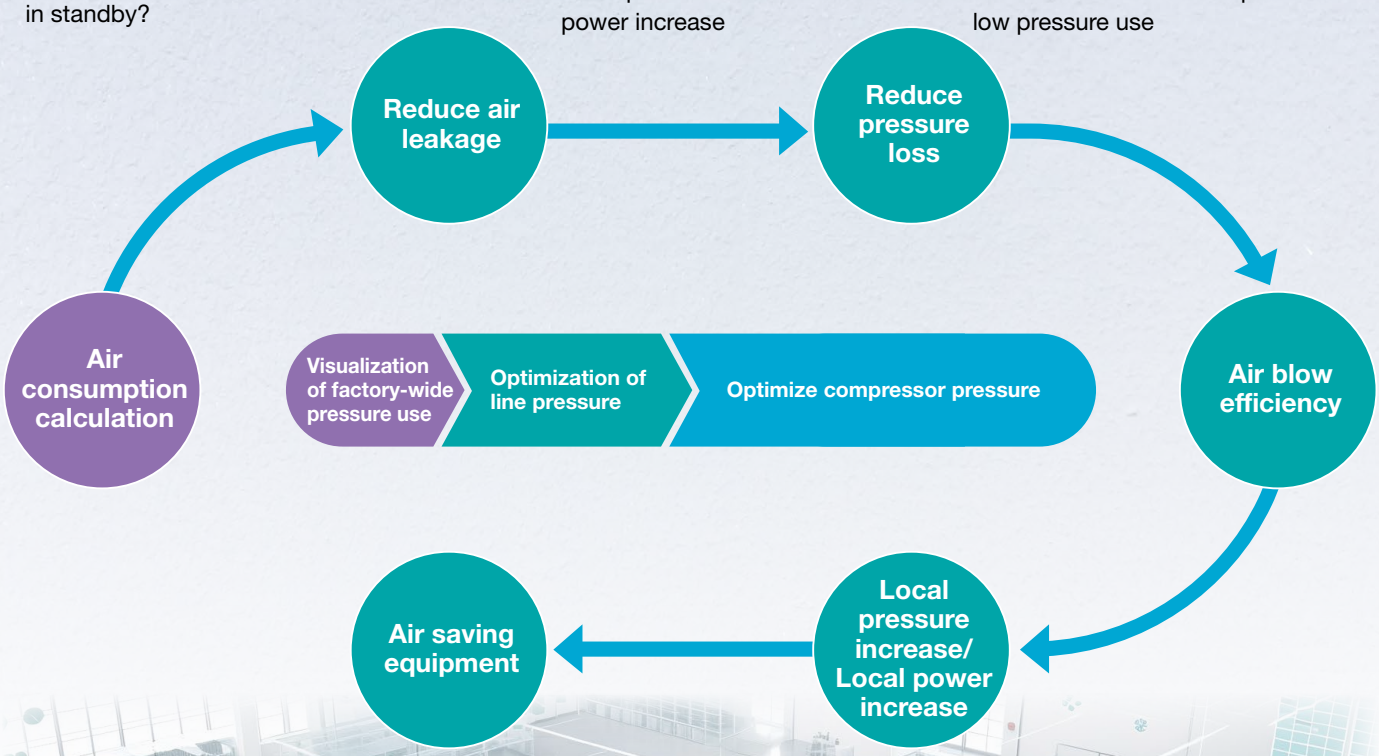
Optimization of line pressure

- Remove causes of pressure drops for supply
- Confirm operation at low pressure
- Prevent air leakages
- Local pressure increase/Local power increase

STEP 3

Optimize compressor air pressure

- Reduce compressor pressure to the required level of pressure
- Stop high pressure compressors that are not required
- Establish new factories optimized for low pressure use



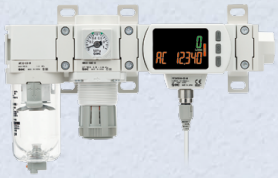
Products that underpin the 4BAR factory concept

Air Consumption Calculation

Visualization | Status monitoring

A wide range of flow measurement is possible with 1 product.

3-Color Display Digital Flow Switch for Large Flow
PF3A□H(-L) Series



Display the measured value (current pressure value)

3-Screen Display High-Precision Digital Pressure Switch
ZSE20□(F)/ISE20□ Series

Reduce Pressure Loss

Reduce pressure loss | Incorporate components and piping that reduce line pressure drops

Increased air flow capacity due to lower pressure drop

Compressed Air Preparation Filter
AFF/AM/AMD Series

Straighter flowing fluid "improves pressure loss"

Blow Gun
VMG Series

Pressure loss is reduced by special configuration.

S Couplers
KK130 Series

Air Blow Efficiency

High impact pressure | Maintain pre-nozzle pressure to deliver high impact pressure at low pressure settings

High-pressure blow with minimal pressure loss

Nozzles for Blowing
KN Series

High impact pressure | Higher peak pressure

Increased impact force due to higher peak pressure

Air Saving Impact Blow Gun
IBG Series

Air Saving Impact Blow Valve
IBV Series

Local Power Increase/Local Pressure Increase

Local power increase/High pushing force | Achieve the same pushing force as an actuator of an equivalent bore size at low pressure settings

Achieve the pushing force of the next bore size up

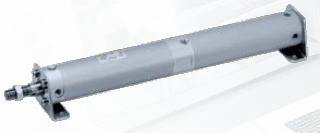
Compact Cylinder/High Power Type
CQE Series

Double extension output power

Non-rotating Double Power Cylinder
MGZ Series

This is a cylinder produced with two air cylinders in line allowing double the output force.

Tandem Cylinder
-XC12



Double piston construction provides twice the output force.

Air Slide Table
MXQ□ Series

Dual Rod Cylinder
CXS2 Series

Local pressure increase | Compensate for the reduced force of a low supply pressure

Increase factory air pressure by 1.7 times

Energy Saving, Exhaust-Recovery Booster Regulator
VBAE Series

Air Saving Equipment

High efficiency | **Max. vacuum pressure at 0.35 MPa**

Max. vacuum pressure: –91 kPa (at 0.35 MPa)

Vacuum Unit
ZK2□A Series

Multistage Ejector
ZL1/ZL3/ZL6 Series

Reduce air consumption | **Pulsed intermittent air blow**

Air consumption: 50% reduction

Pulse Blow Unit
PU Series

Pulse Blow Valve
AXTS040-X202 Series

Pulse blow saves air.

Ionizer Gun
IZG10 Series

Reduce air consumption | **Air consumption between the valve and cylinder reduced.**

Air consumption: Approx. 50% reduction

Compact Cylinder With Solenoid Valve
CVQ Series

Reduce air consumption | **Reduce air consumption by eliminating fixed throttles**

Precision Regulator
IR1000-A/2000-A/3000-A Series

Reduce air consumption | **Zero flow consumption during stand-by mode*1**

Ionizer/Bar Type
IZS51 Series

*1 With the valve unit installed

Reduce air consumption | **By reducing the pressure on the return stroke, air consumption can be reduced.**

Air Saving Speed Controller
AS-R/AS-Q Series

Providing added value to the 4BAR factory concept

The air management system elevates the “4BAR factory” concept by reducing air consumption while equipment is in standby.

- Visualization of production equipment status
- Compatible with SMC wireless systems
- Compatible with OPC UA PROFINET EtherNet/IP EtherCAT
- Reduce air consumption by lower pressure during equipment standby
- Reduce air consumption by shutting off valves depending on equipment shutdown conditions

Trademarks
EtherNet/IP® is a registered trademark of ODVA, Inc.
EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

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⚠ Safety Instructions	Be sure to read the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” before use.

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