



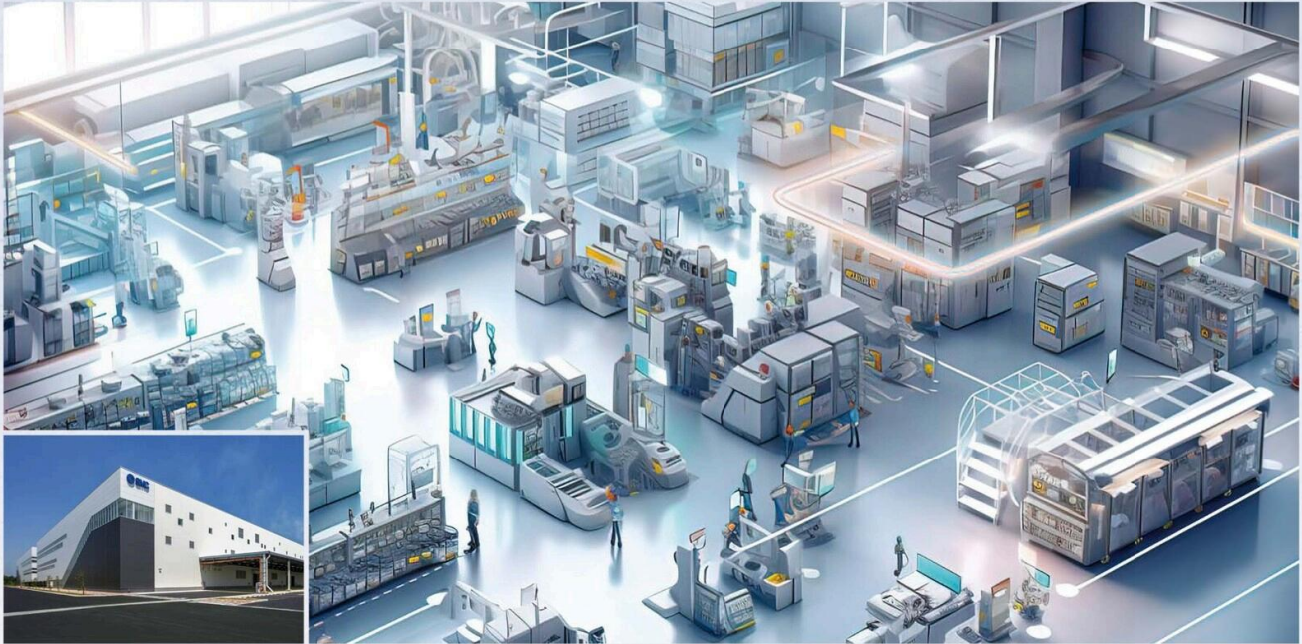
4BAR factory

Change the pressure to change the future.



4BAR factory Concept

A 4BAR factory is a new SMC concept that significantly reduces CO₂ 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.



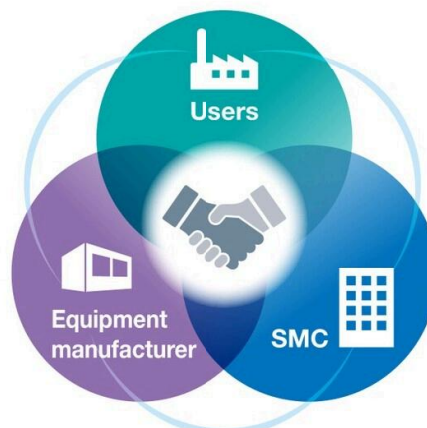
Reducing pressure in SMC's own factories has already begun.

* 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.



■ 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

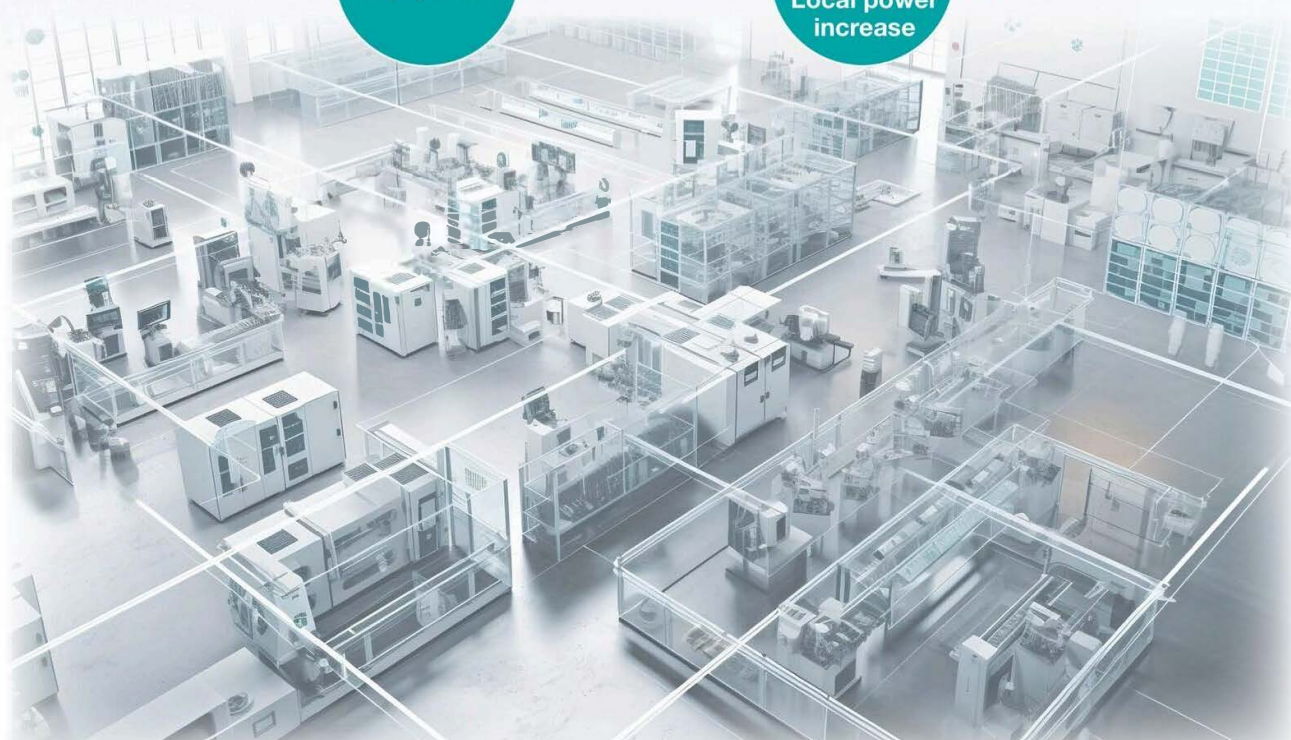
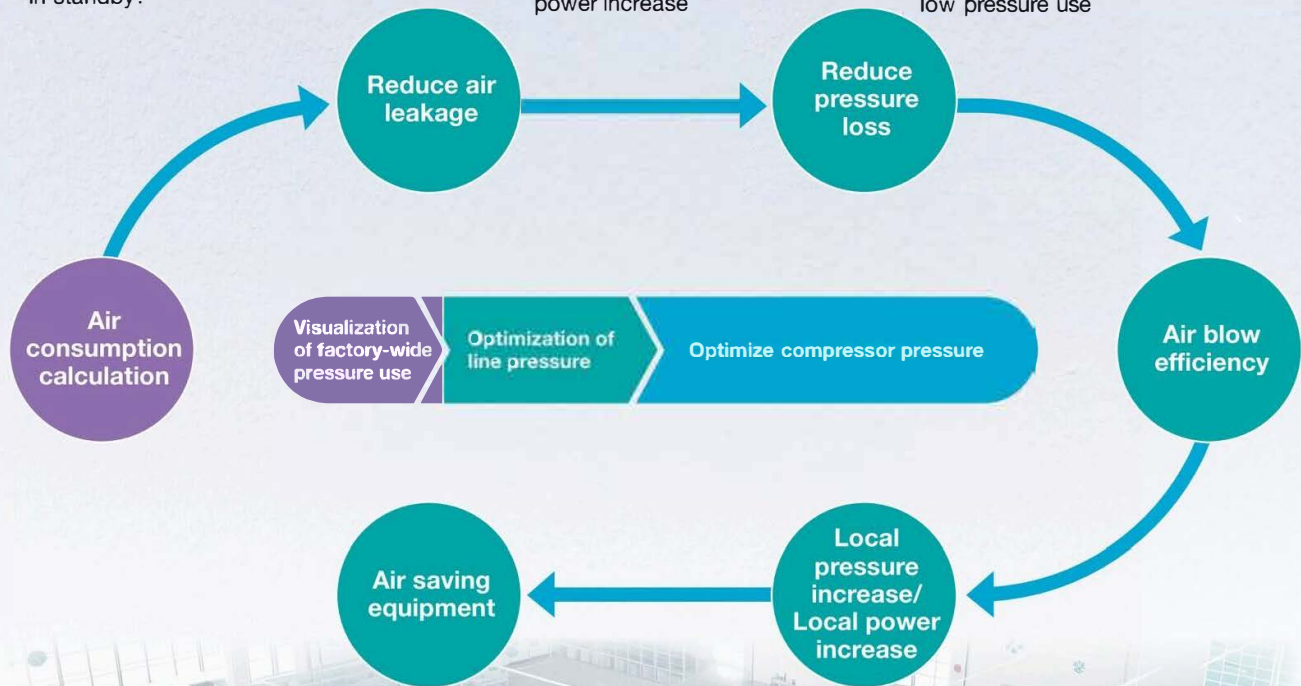
Optimization of line pressure

- 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



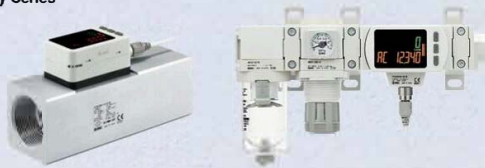
Products that underpin the 4BAR factory concept

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
CFE 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**
 **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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