

OSHA Standard Compliant Nozzle for One-touch Fitting

New
RoHS

Resin type



Stainless steel type

Fluid temperature

Max. 150°C

Compliant with OSHA Standard 1910.242(B)

The structure prevents closing of the discharge port. This is a safety design that limits the pressure to 30 psi even when an operator is touching the nozzle. (Operating pressure: 0.5 MPa or less)

Energy saving of air blowing

CO₂ emissions (Air consumption)

42% reduction

Significantly lowers the air consumption in comparison to a comb-shaped nozzle with a comparable blowing range.

* Compared at the same impact pressure

Low noise

Max. 8 dB(A) reduction

Lower noise than a nozzle with male thread when the impact pressure is the same

* When the impact pressure is 5 kPa

KNA nozzle

KNA(G)-Q10-180

76 dB(A)

Existing model

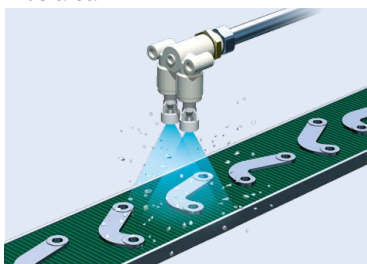
Nozzle for One-touch fitting (Resin type)

KN-Q10A-200

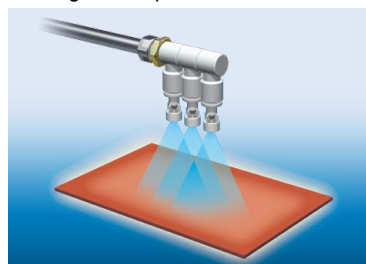
84 dB(A)

Application Examples

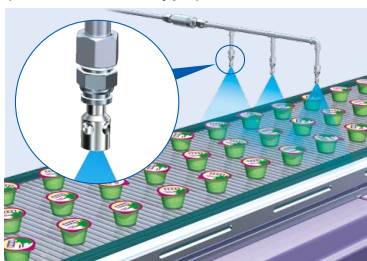
Removal of foreign matter across a wide area



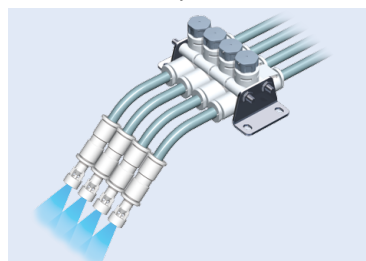
Cooling of workpieces



Blowing air on food products (Stainless steel type)



Connects to a restrictor (AS-X21, X214) to allow flow rate adjustment at the nozzle



Applicable One-touch Fittings

One-touch Fittings

KQ2 Series



Rotary One-touch Fittings

KS/KX Series



Self-seal Fittings

KC Series



Piping Module

KB Series



Stainless Steel One-touch Fittings

KG Series



Clean One-touch Fittings for Blowing

KP Series



Metal One-touch Fittings

KQB2 Series



Stainless Steel 316 One-touch Fittings

KQG2 Series



* Please use the product in accordance with the specifications provided in the catalogs/operation manuals. It is your responsibility to check the suitability for your workpiece and equipment.

KNA(G)-Q10-180

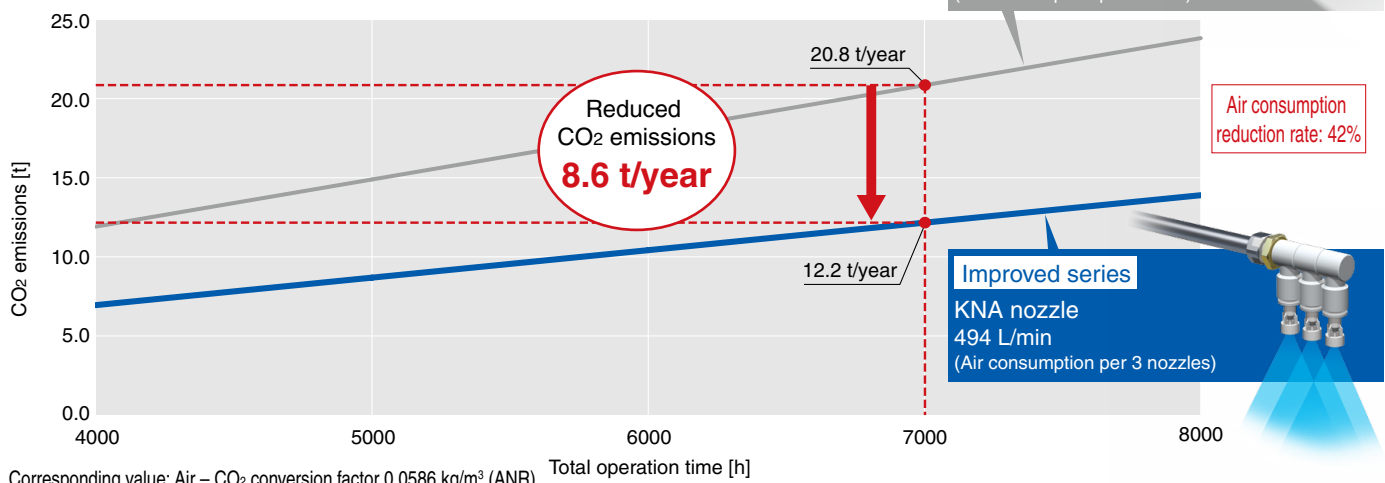


CAT.ES50-44A

OSHA Standard Compliant Nozzle for One-touch Fitting *KNA(G)-Q10-180*

Energy saving by improving the nozzle (reduction of compressed air)

The CO₂ emissions for total blowing hours per year (7000 h) when the KNA series is used is 12.2 t, compared to 20.8 t when a comb-shaped nozzle is used. This is a reduction of 42% (8.6 t).



Corresponding value: Air – CO₂ conversion factor 0.0586 kg/m³ (ANR)

[Installation example]

	Existing series	Improved series
Nozzle series	Comb-shaped nozzle	KNA-Q10-180
Installation quantity (piece/line)	10	30
Installation quantity (line)	10	10

[Calculation conditions]

Blowing distance	80 mm
Impact pressure	10 kPa

[Work model]

Blow time	10 s/cycle
Frequency	12 cycles/h
Operating hours	10 h/day
Operating days	210 days/year
Total operation time per year	7000 h/year

* Compared at the same impact pressure

Adjustable layout to match application

Twin Nozzle

Triple Nozzle

Water-resistant Type

Bar Type Nozzle

Caution

If the KNA series nozzle is used with a non-SMC fitting, it may come off, posing a serious risk to the user. It is recommended to use an SMC One-touch fitting with this product. Before operation, check that the nozzle is securely attached to the One-touch fitting and will not fall off. Refer to the **Web Catalog** for details on fittings.

OSHA Standard Compliant Nozzle for One-touch Fitting



KNA(G)-Q10-180

Specifications

Model	KNA-Q10-180	KNAG-Q10-180
Material	PBT	Stainless steel 316
Fluid	Air	
Max. operating pressure	1 MPa	
Ambient and fluid temperatures	-5 to 60°C (No freezing)	-5 to 150°C (No freezing)
Nozzle diameter	Equivalent to $\phi 1.8$	
Weight	3 g	17 g
Applicable One-touch fitting size	$\phi 10$	

Applicable One-touch Fittings

Series	Nozzle	
	Resin	Stainless steel
One-touch Fittings		
KQ2 Series	○	—
Rotary One-touch Fittings		
KS/KX Series	○	—
Self-seal Fittings		
KC Series	○	—
Piping Module		
KB Series	○	—
Stainless Steel One-touch Fittings		
KG Series	○	—
Clean One-touch Fittings for Blowing		
KP Series	○	—
Metal One-touch Fittings		
KQB2 Series	○	○
Stainless Steel 316 One-touch Fittings		
KQG2 Series	○	○



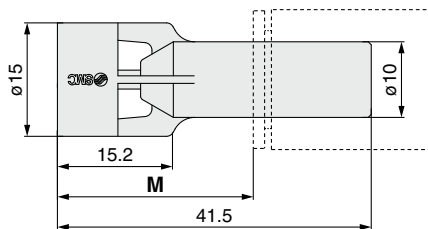
Resin type



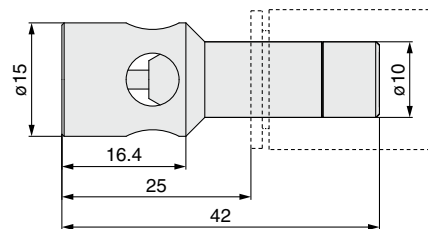
Stainless steel type

Dimensions

KNA-Q10-180/Resin type



KNAG-Q10-180/Stainless steel type



M	Applicable One-touch fitting							
	KQ2	KS/KX	KC	KB	KG	KP	KQB2	KQG2
M	25.9	20.5	17.5	20.5	20.5	18.5	24.5	24.5

⚠ Caution

If the KNA series nozzle is used with a non-SMC fitting, it may come off, posing a serious risk to the user. It is recommended to use an SMC One-touch fitting with this product. Before operation, check that the nozzle is securely attached to the One-touch fitting and will not fall off. Refer to the **Web Catalog** for details on fittings.

⚠ Specific Product Precautions

Be sure to read this before handling the products. Refer to the operation manual for safety instructions and other specific product precautions.

Design / Selection

⚠ Warning

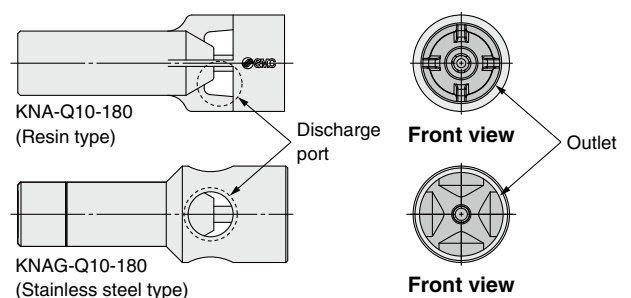
1. Do not close the discharge port on the product side.

A discharge port is provided on the product side of the nozzle for safety to prevent pressure increase even when the nozzle outlet is closed.

This conforms to the OSHA Standard (1910.242(B))


(Limiting the pressure to 30 psi (0.21 MPa) or less when used with pressure of 0.5 MPa or less)


When the discharge port is closed, the pressure may increase above the standard value, and it may not be used safely.




Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “**Caution**,” “**Warning**” or “**Danger**.” They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

 **Caution:** **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

 **Warning:** **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

 **Danger:** **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

*1) ISO 4414: Pneumatic fluid power – General rules relating to systems.
ISO 4413: Hydraulic fluid power – General rules relating to systems.
IEC 60204-1: Safety of machinery – Electrical equipment of machines.
(Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots – Safety.
etc.

Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

Caution

1. The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries.
If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
If anything is unclear, contact your nearest sales branch.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”.

Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)
Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

*2) Vacuum pads are excluded from this 1 year warranty.

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.
Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.


Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

Caution

SMC products are not intended for use as instruments for legal metrology.

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

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

SMC Corporation