

Blow Gun

Series VMG

Energy saving

Reduction of
2,000 m³ per annum is possible.

Pressure loss **1% or less**
(Nozzle diameter: $\phi 2.5$)



VMG

KN

Noise reduction

Low-noise nozzle
80 dB or less



Produces less noise by dividing the air-blow slit.

Air-flow volume is determined by the effective area, not the nozzle diameter.

A large effective area means that the blow gun can be used with less pressure for the required job.

This means it is possible to use with less air consumption. In addition, the environmentally friendly low noise nozzle is also available.

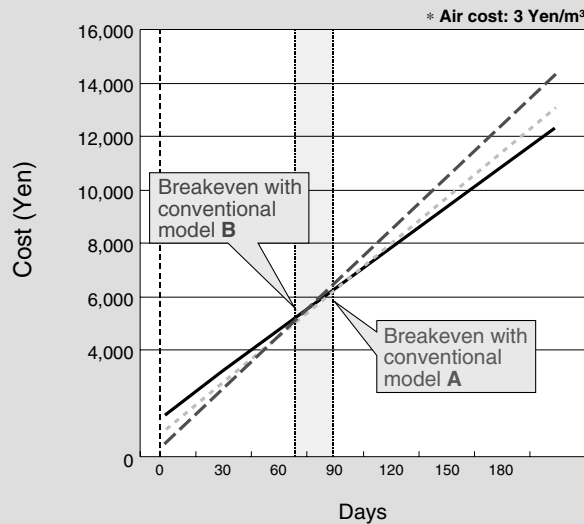
For example

	Nozzle diameter	Effective area (mm ²)	Consumption flow (dm ³ /min (ANR))	Air consumption (m ³)			Amount difference (12 months)	
				1 month	6 months	12 months	Air consumption (m ³)	Cost
VMG	$\phi 2$	30	211	506	3,038	6,077	—	—
Conventional model A	$\phi 2.5$	6	237.5	570	3,420	6,840	+ 763	+ ¥2,289
Conventional model B	$\phi 3$	6	273.3	650	3,936	7,871	+1,794	+ ¥5,382

* Air cost: 3 Yen/m³

Comparison by Switchover

Total cost comparison (Blow gun purchase price + Air cost)



[Model]

● VMG11W-02-03

Effective area 30 mm²
Nozzle diameter $\phi 2$

● Conventional model A

Effective area 6 mm²
Nozzle diameter $\phi 2.5$

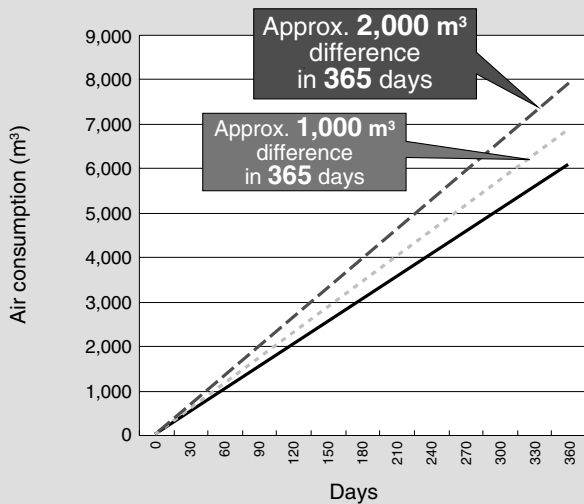
● Conventional model B

Effective area 6 mm²
Nozzle diameter $\phi 3$

[Condition]

- Workpiece impact pressure: 0.01 MPa
- Workpiece distance: 100 mm
- Piping: TU0805-3 m
- Blow time: 30 s/times
- Blow frequency: 10 times/h
- Working hours: 16 hrs/day

Air consumption comparison (per blow gun)

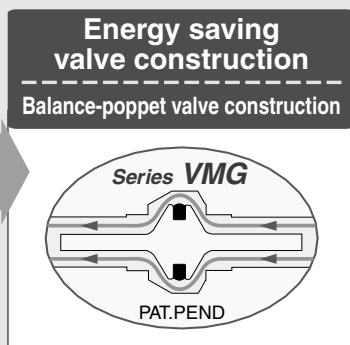
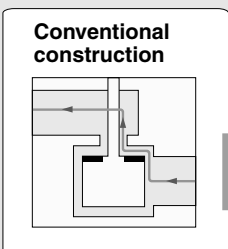


Approx. 2,000 m³
difference
in 365 days

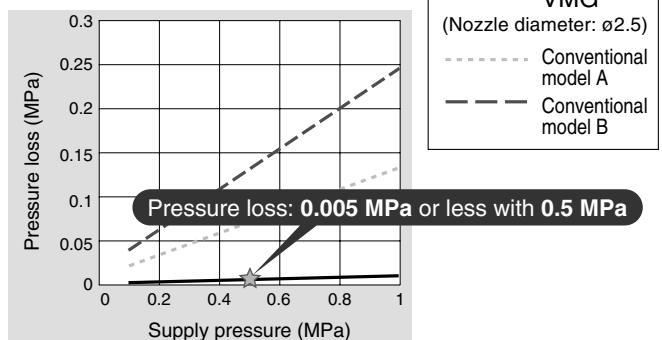
Approx. 1,000 m³
difference
in 365 days

Valve Construction and Pressure Loss

Straighter flowing fluid “improves pressure loss.”



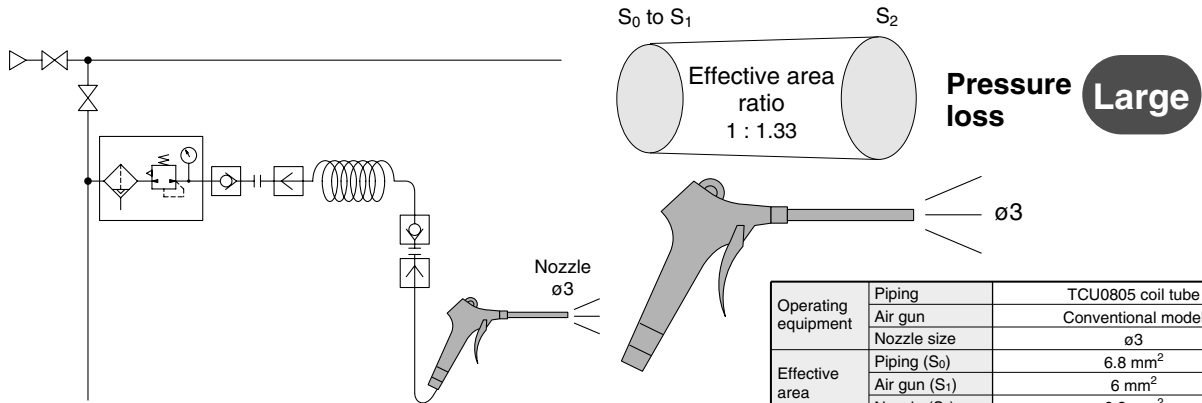
Pressure Loss



Example of Air Blow Improvement

Before improvement

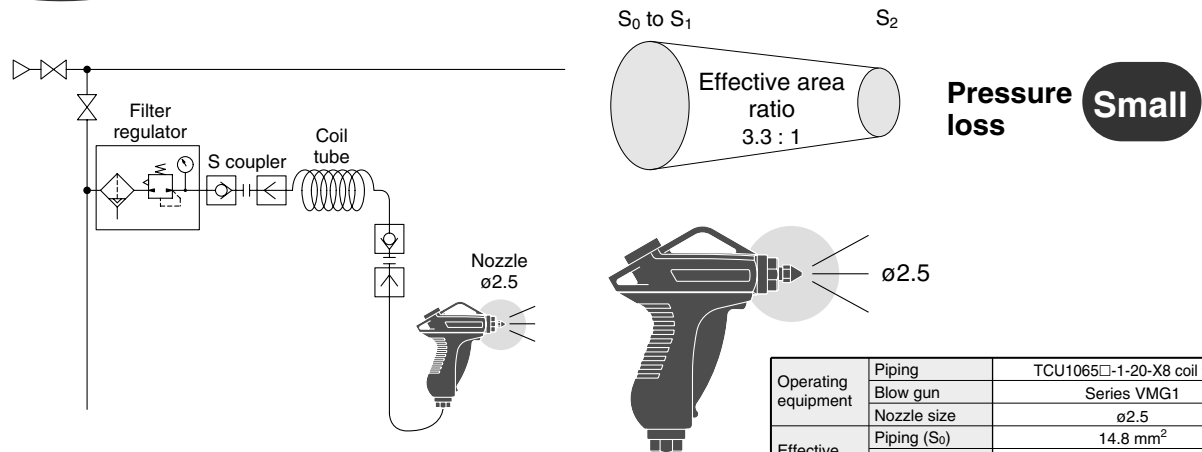
When using the air gun, energy-saving measures are rarely taken.



Operating equipment	Piping	TCU0805 coil tube
	Air gun	Conventional model
	Nozzle size	ø3
Effective area	Piping (S ₀)	6.8 mm ²
	Air gun (S ₁)	6 mm ²
	Nozzle (S ₂)	6.3 mm ²
Effective area ratio (S ₀ to S ₁ : S ₂)		1 : 1.33
Regulator pressure		0.3 MPa
Air gun pressure (idling)		0.255 MPa
Outlet pressure		0.177 MPa
Air consumption		210.7 dm ³ /min (ANR)
Pressure loss	Whole system	0.123 MPa
	Air gun single unit	0.078 MPa

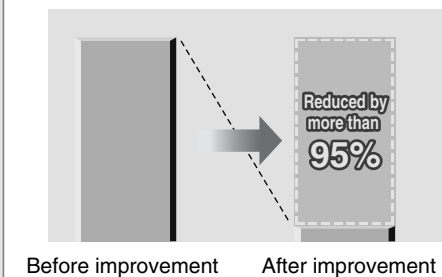
After reviewing the air-blow job, changing the fittings, tube and blow gun create a larger effective area.

After improvement

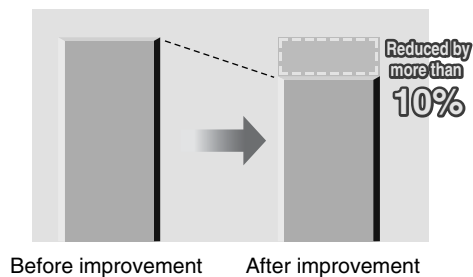


Operating equipment	Piping	TCU1065□-1-20-X8 coil tube
	Blow gun	Series VMG1
	Nozzle size	ø2.5
Effective area	Piping (S ₀)	14.8 mm ²
	Blow gun (S ₁)	30 mm ²
	Nozzle (S ₂)	4.4 mm ²
Effective area ratio (S ₀ to S ₁ : S ₂)		3.3 : 1
Regulator pressure		0.26 MPa
Blow gun pressure (idling)		0.254 MPa
Outlet pressure		0.252 MPa
Air consumption		186.6 dm ³ /min (ANR)
Pressure loss	Whole system	0.008 MPa
	Blow gun single unit	0.002 MPa

Reduced pressure loss for the whole system



Reduced air consumption



Hand-fit Design

34 Types in Nozzle Variation



Dark blue

White

Piping direction	Piping type	Body color
Bottom	Rc, NPT, G 1/4, 3/8	White
Top	With S coupler plug	Dark blue

Nozzles

Low-noise nozzle

Mono-porous nozzle (ø2) 90 to 100 dB
 ø1 x 4 low noise nozzle 80 dB or less

Note) Supply pressure: 0.5 MPa
 Measured at a 45 degree angle according to JIS B 8379



* Achieving lower-noise by dividing the air blow slit.

Male thread nozzle



* Powerful, and economical

High-efficiency nozzle



* Making use of Bernoulli effect and achieving high-efficiency.

Copper extension nozzle



* Secures more power even at a greater distance from a workpiece.

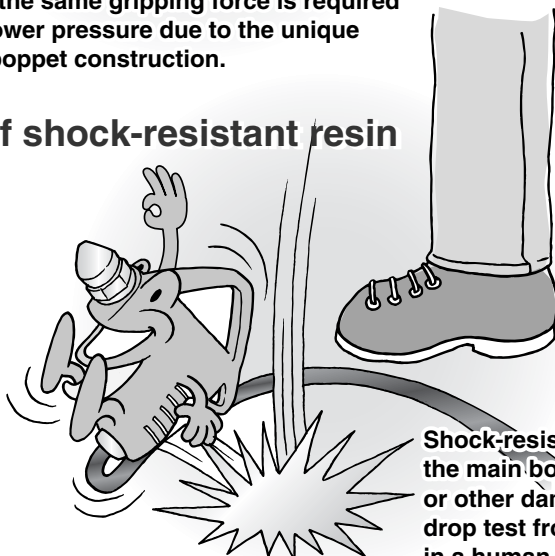
Operability, Safety, Environmentally

Not affected by supply pressure,
 Assured operability



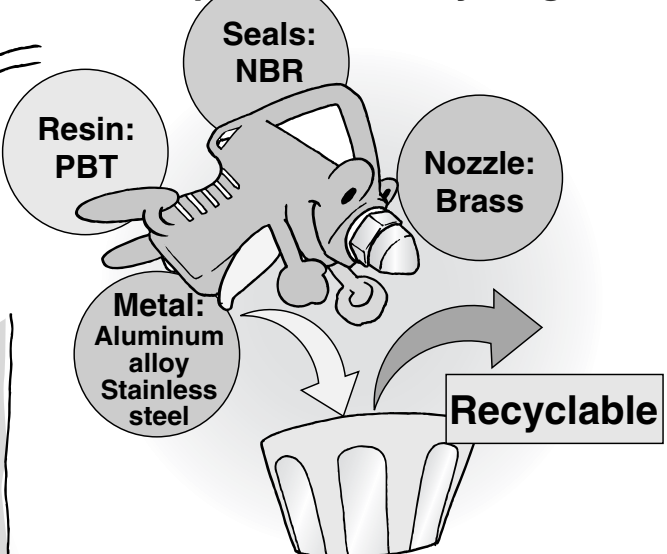
When using this product even at a high pressure the same gripping force is required as for a lower pressure due to the unique balance-poppet construction.

Use of shock-resistant resin



Shock-resistant resin is used in the main body. No cracks, breaks or other damage occurred in a drop test from a 2-meter height or in a human stomp test.

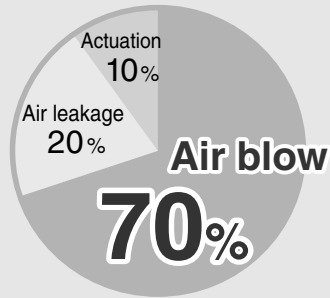
Components can be separated for recycling.



Resin parts are labeled with their material composition for easy identification. In addition, all components are separable according to their material composition.

“Why not use wasted air?”

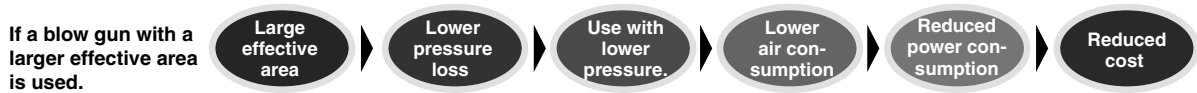
Example of air consumption inside the factory



The power consumption for air (compressor) consumed in the factory is accounting for 20%. An estimated 70% of total air consumption is used for air blowing. Why not review your air consumption?

- First, check your blow gun.
Most blow guns in use have an effective area of about 6 mm².

But the SMC model has an **effective area** of **30 mm²**.

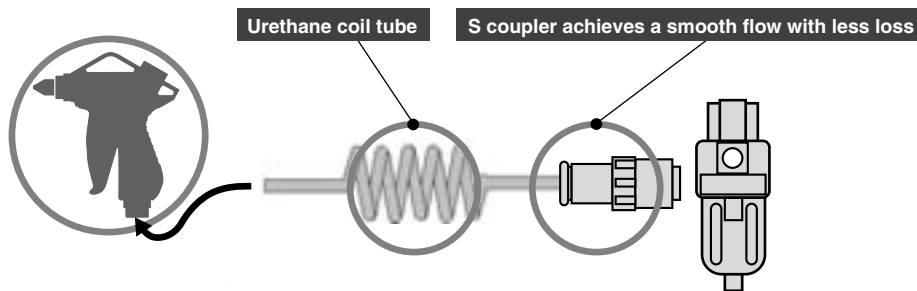


- Furthermore, energy can be saved using a comprehensive air-blow system.

Air leakage measures **Improvement of pressure loss** **High-efficiency** etc.

Selection Table for Blow Gun Nozzle Diameter and Tube

* Recommended system in accordance with the nozzle type



Blow gun		Piping length: 1 m		Piping length: 2 m	
		Coil tube Tube diameter	S coupler Model	Coil tube Tube diameter	S coupler Model
Male thread nozzle	Ø1	Ø6	KK4S-06□	Ø6	KK4S-06□
	Ø1.5	Ø6	KK4S-06□	Ø8	KK4S-08□
	Ø2	Ø8	KK4S-08□	Ø10	KK4S-10□
	Ø2.5	Ø10	KK4S-10□	Ø12	KK4S-12□
High efficiency nozzle	Ø1	Ø6	KK4S-06□	Ø6	KK4S-06□
	Ø1.5	Ø6	KK4S-06□	Ø8	KK4S-08□
	Ø2	Ø8	KK4S-08□	Ø10	KK4S-10□
Low noise nozzle with male thread	Ø0.75 x 4	Ø6	KK4S-06□	Ø6	KK4S-06□
	Ø0.9 x 8	Ø10	KK4S-10□	Ø12	KK4S-12□
	Ø1 x 4	Ø8	KK4S-08□	Ø10	KK4S-10□
	Ø1.1 x 8	Ø10	KK4S-12□	Ø12	KK4S-12□
Copper extension nozzle	Ø1.5-300 mm	Ø6	KK4S-06□	Ø8	KK4S-08□
	Ø2-300 mm	Ø8	KK4S-08□	Ø10	KK4S-10□
	Ø1.5-600 mm	Ø6	KK4S-06□	Ø8	KK4S-08□
	Ø2-600 mm	Ø8	KK4S-08□	Ø10	KK4S-10□

Blow Gun

Series VMG



How to Order

VMG 1 1 W - 03 - 01

Blow gun
Standard type

Series
1 Resin body lever type

Piping entry
1 Bottom
2 Top

Body color
W White
BU Dark blue

Piping connection type
Nil Rc
N NPT
F G

Nozzle

	Type	Nozzle model	Nozzle size
Nil		Without nozzle	
01	Male thread nozzle	KN-R02-100	ø1
02		KN-R02-150	ø1.5
03		KN-R02-200	ø2
04		KN-R02-250	ø2.5
11	High efficiency nozzle	KNH-R02-100	ø1
12		KNH-R02-150	ø1.5
13		KNH-R02-200	ø2
21	Low noise nozzle with male thread	KNS-R02-075-4	ø0.75 x 4
22		KNS-R02-090-8	ø0.9 x 8
23		KNS-R02-100-4	ø1 x 4
24		KNS-R02-110-8	ø1.1 x 8
31	Copper extension nozzle <small>Note 1)</small>	Length 300 mm	KNL3-06-150
32		Length 600 mm	KNL3-06-200
33			KNL6-06-150
34		KNL6-06-200	

Note 1) One piece of H06-02 self-align fitting is attached.
When a copper extension nozzle is ordered separately, a self-align fitting will also be required for connection. Order one with the above part number in addition to the nozzle.

Connection size

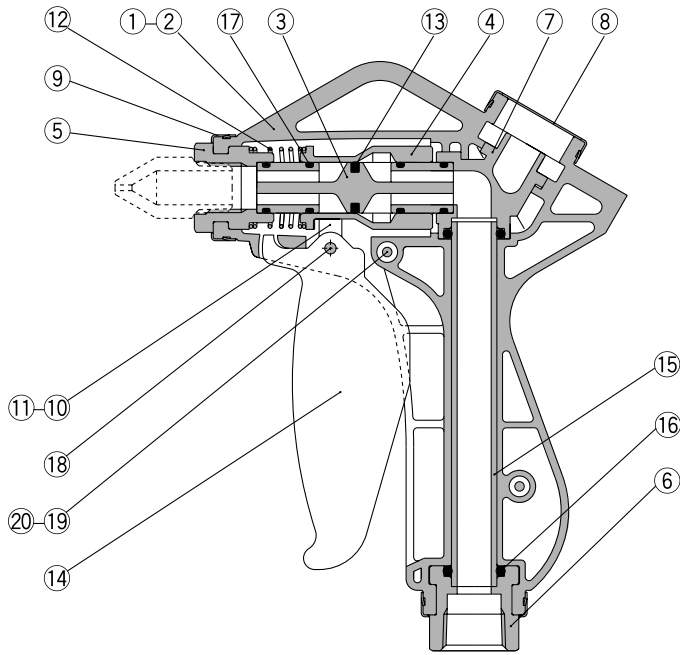
	Piping connection system	Size and part no.
02	Screw-in type	Port size
03		1/4
11	With S coupler plug <small>Note 1)</small>	Plug part no. KK4P-02MS

Note 1) In the case of a type with an S coupler plug, specify no symbol (Rc) for the piping connection type. The size is Rc 1/4.

Specifications

Fluid	Air	
Operating pressure range	0 to 1.0 MPa	
Proof pressure	1.5 MPa	
Ambient and fluid temperature	-5 to 60°C (No freezing)	
Effective area	30 mm ² (without nozzle)	
Port size	Rc, NPT, G 1/4, 3/8	
Piping entry	Bottom	Top
Nozzle port size	Rc 1/4	
Weight	180 g	
Operational force (when the valve is fully open)	7 N	

Construction



Component Parts

No.	Description	Material	Note
1	Body L	PBT	
2	Body R	PBT	
3	Main valve	PBT	
4	Valve guide	Aluminium alloy	Chromated
5	Nozzle holder	Aluminium alloy	Anodized
6	Port	Aluminium alloy	Anodized
7	Elbow	PBT	
8	Cover	PBT	
9	Ring	PBT	
10	Arm L	PBT	
11	Arm R	PBT	
12	Spring	Stainless steel	
13	Main valve seal	HNBR	
14	Lever	PBT	
15	Tube	POM	*Only for VMG11
16	O-ring	NBR	
17	O-ring	NBR	
18	Parallel pin	Stainless steel	
19	Round head Phillips screw	Stainless steel	
20	Hexagon nut	Stainless steel	

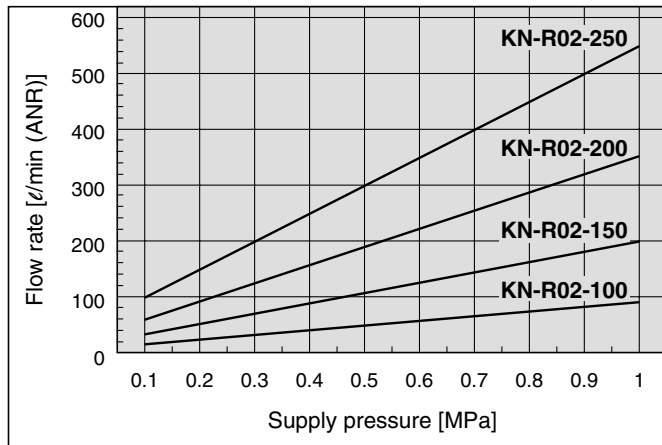
Note) Grease is used for the rubber and sliding sections.

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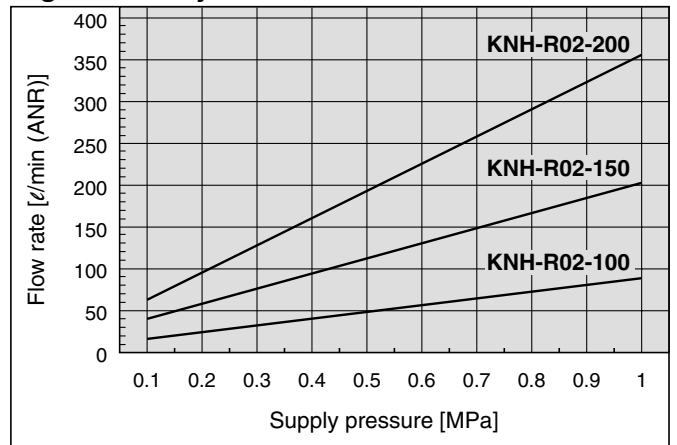
Flow Characteristics

Note) Values when the main valve is fully open.

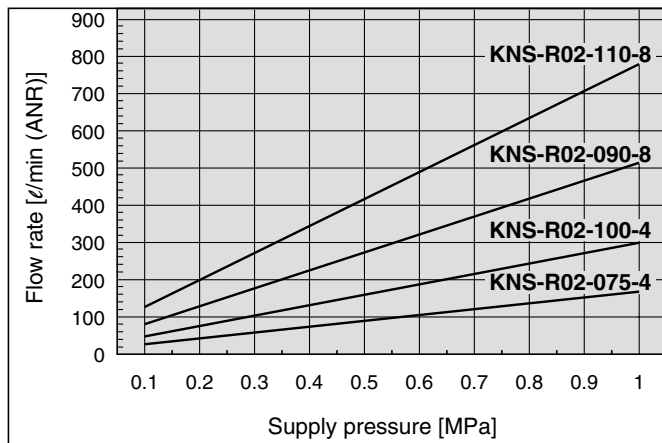
Male thread nozzle



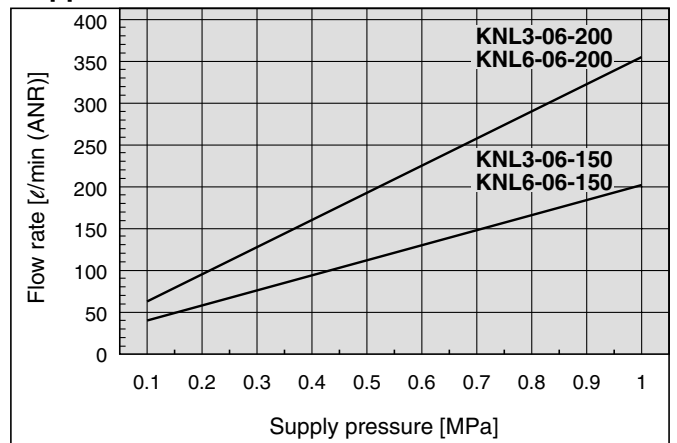
High efficiency nozzle



Low noise nozzle with male thread

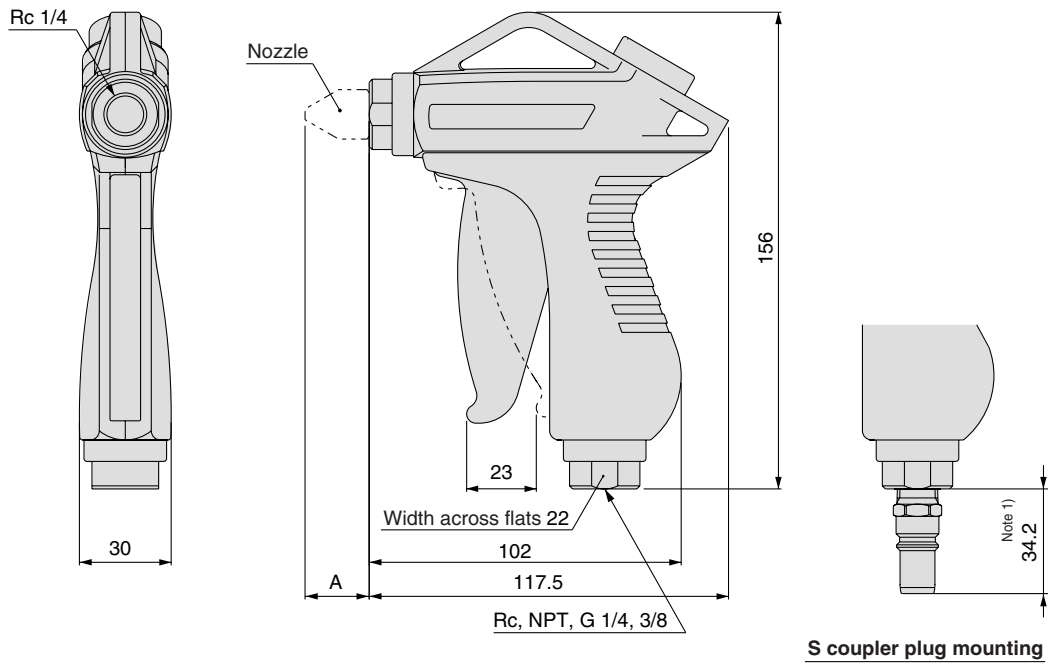


Copper extension nozzle

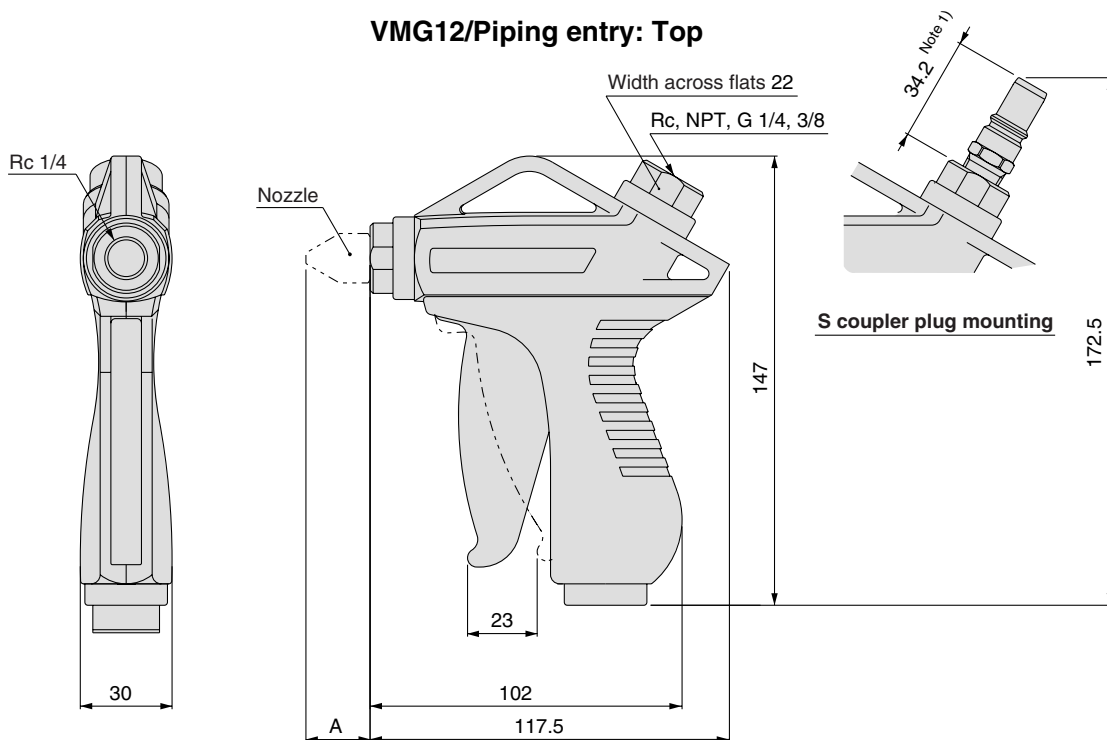


Dimensions

VMG11/Piping entry: Bottom



VMG12/Piping entry: Top



Type	Nozzle model	Nozzle size	A (mm) Note 1)
Male thread nozzle	KN-R02-100	ø1	23.4
	KN-R02-150	ø1.5	23
	KN-R02-200	ø2	22.5
	KN-R02-250	ø2.5	22.1
High efficiency nozzle	KNH-R02-100	ø1	44
	KNH-R02-150	ø1.5	44
	KNH-R02-200	ø2	44

Type	Nozzle model	Nozzle size	A (mm) Note 1)
Low noise nozzle with male thread	KNS-R02-075-4	ø0.75 x 4	12
	KNS-R02-090-8	ø0.9 x 8	12
	KNS-R02-100-4	ø1 x 4	12
	KNS-R02-110-8	ø1.1 x 8	12
	KNS-R02-110-8	ø1.1 x 8	12
Copper extension nozzle (with self-align fitting H06-02)	KNL3-06-150	ø1.5	305.3
	KNL3-06-200	ø2	305.3
	KNL6-06-150	ø1.5	605.3
	KNL6-06-200	ø2	605.3

Note 1) Reference dimensions after installation

Dimensions: Nozzle/Series KN

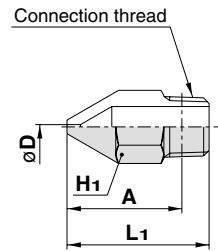
Male thread nozzle: KN

(mm)



Model	Nozzle size D	Connection thread	Width across flats H₁	L₁	A*
KN-R02-100	ø1	R 1/4	14	31.4	25.4
KN-R02-150	ø1.5	R 1/4	14	31	25
KN-R02-200	ø2	R 1/4	14	30.5	24.5
KN-R02-250	ø2.5	R 1/4	14	30.1	24.1

* Reference dimensions after R thread installation.



VMG
KN

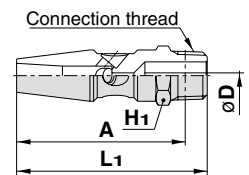
High efficiency nozzle: KNH

(mm)



Model	Nozzle size D	Connection thread	Width across flats H₁	L₁	A*
KNH-R02-100	ø1	R 1/4	14	52	46
KNH-R02-150	ø1.5	R 1/4	14	52	46
KNH-R02-200	ø2	R 1/4	14	52	46

* Reference dimensions after R thread installation.



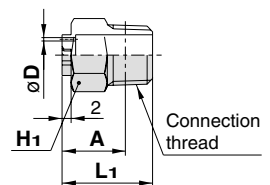
Low noise nozzle with male thread: KNS

(mm)



Model	Nozzle size D	Connection thread	Width across flats H₁	L₁	A*
KNS-R02-075-4	ø0.75 x 4	R 1/4	14	20	14
KNS-R02-090-8	ø0.9 x 8	R 1/4	14	20	14
KNS-R02-100-4	ø1 x 4	R 1/4	14	20	14
KNS-R02-110-8	ø1.1 x 8	R 1/4	14	20	14

* Reference dimensions after R thread installation.



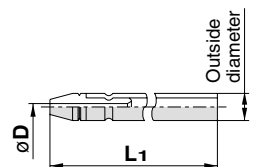
Copper extension nozzle: KNL

(mm)



Model	Nozzle size D	Outside diameter	L₁
KNL3-06-150	ø1.5	ø6	300
KNL3-06-200	ø2	ø6	300
KNL6-06-150	ø1.5	ø6	600
KNL6-06-200	ø2	ø6	600

Note) When a copper extension nozzle is ordered separately, a self-align fitting will also be required for connection with the blow gun. Order one with the following part number in addition to the nozzle.



Self-align fittings (For copper extension nozzle connection)

Male connector
H06-02-X2



Set no.	Description	
	Nozzle	Self-align fittings
KNL3-06-150A02	KNL3-06-150 (1 pc.)	H06-02-X2 (1 pc.)
KNL3-06-200A02	KNL3-06-200 (1 pc.)	H06-02-X2 (1 pc.)
KNL6-06-150A02	KNL6-06-150 (1 pc.)	H06-02-X2 (1 pc.)
KNL6-06-200A02	KNL6-06-200 (1 pc.)	H06-02-X2 (1 pc.)



Series VMG Specific Product Precautions 1

Be sure to read before handling.

Selection

Warning

1. Confirm the specifications.

The products in this catalog are designed to be used in compressed air systems only. If the products are used in an environment where pressure or temperature is out of the specified range, damage and/or malfunction may result. Do not use under such conditions.

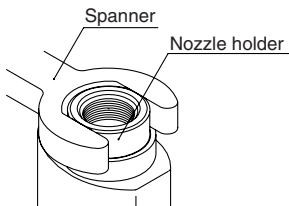
Caution

1. Do not apply the blow gun to flammable, explosive or toxic substances such as gas, fuel gas or refrigerant. Such substances may exude from inside the blow gun.

Mounting

Warning

1. Install a stop valve on the supply pressure side of the blow gun to enable emergency shut off in case of unexpected leakage or damage.
2. When installing a nozzle on the blow gun, wrap seal tape around the threads of the nozzle.
3. When installing the nozzle, secure the nozzle holder of the blow gun by applying a spanner of 22 mm width across flats to the two chamfered surfaces of the holder without applying force to the body. Then tighten the nozzle with force within the following torque ranges. As a guideline, it is equivalent to 2 to 3 additional turns with a tool after manual tightening.



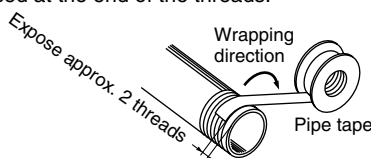
Nozzle tightening torque range	12 to 14 N·m
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Insufficient tightening may cause loosening of the nozzle.

Piping

Caution

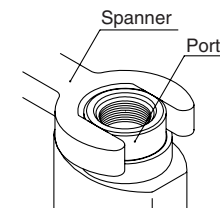
1. Confirm the model, type and size before installation.
Also make sure that there is no scratches, gouges or cracks on the product.
2. Before piping
Before piping, it should be thoroughly blown out with air (flushing) or washed to remove chips, cutting oil and other debris from inside the pipe.
3. Wrapping of pipe tape
When screwing together pipes and fittings, etc., be certain that chips from the pipe threads and sealing material do not get inside the piping. Also, when the pipe tape is used, leave 1.5 to 2 thread ridges exposed at the end of the threads.



Piping

Caution

4. When screwing the threads, secure the nozzle holder of the blow gun by applying a spanner of 22 mm width across flats to the two chamfered surfaces of the holder without applying force to the body. Then tighten the nozzle with torque specified in the table below. As a guideline, it is equivalent to 2 to 3 additional turns using a tool after manual tightening.



Male thread	Tightening torque N·m
R 1/4	12 to 14
R 3/8	22 to 24

Be careful that tightening with torque beyond the ranges in the table below may cause damage to the body.

5. Allow extra length when connecting the tube to accommodate changes in tube length due to pressure.
6. Make sure that no twisting, turning or tensile force or moment load is applied to the port or tube. It may cause the fittings to fracture or the tubing to crush, explode or come loose.
7. Do not abrade, entangle or scratch the tubing. It may cause the tubing to crush, explode or come loose.

Lubrication

Warning

1. Do not lubricate the product.

It may contaminate or damage the target object.

Air Supply

Warning

1. Use clean air.

Do not use compressed air which includes chemicals, synthetic oils containing organic solvents, salt or corrosive gases, etc., as it can cause damage or malfunction.

Caution

1. Install air filters.

Install air filters at the upstream side of blow gun. The filtration degree should be 5 μm or finer.

2. Install an after-cooler, air dryer or water separator, etc.

Air excessive drainage may cause malfunction of blow gun and contaminate or damage the target object. To prevent this, install an after-cooler, air dryer or water separator, etc.



Series VMG Specific Product Precautions 2

Be sure to read before handling.

Operating Environment

Warning

1. Do not use in an atmosphere of corrosive gases, chemicals, sea water, water or water vapor or in an environment where such substances may adhere.
2. Provide shading in an environment where the product is exposed to the sunlight.
3. Do not use in an environment where a heat source is at a close distance.
4. Do not use in an environment where static electricity is a problem. It may cause malfunction or failure of the system. Consult with SMC for use in such an environment.
5. Do not use in an environment where spatters are generated. There is danger of fires caused by spattering. Contact SMC for use in such an environment.
6. Do not use in an environment where the product is directly exposed to cutting oil, lubricant oil or coolant oil. Contact SMC for use in this kind of environment.

Maintenance

Caution

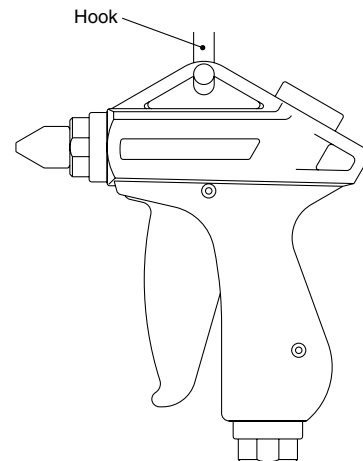
1. In periodical inspections, check the following items and replace the parts if necessary.
 - a) Scratches, gouges, abrasion, corrosion
 - b) Air leakage
 - c) Twisting, crushing and turning of connected tubes
 - d) Hardening, deterioration and softening of connected tubes
 - e) Loosening of the nozzle
2. When removing the product, first stop the pressure supply, exhaust compressed air in the piping and confirm the condition of atmospheric release.
3. Do not disassemble or remodel the body of the product.

Handling

Warning

1. To prevent lurching of the nozzle due to air pressure, confirm that the nozzle is not loosened or rattling by pulling it by hand before operation.
2. Be sure to wear safety goggles to protect yourself from splashed substances.
3. Do not direct the tip of the nozzle at the face or other parts of a human body. It may cause danger to personnel.
4. Do not use the product to clean or remove toxic substances or chemicals.
5. Do not drop, step on or hit the product. It may cause damage to the product.
6. Do not use the product to disturb public order or public hygiene.
7. This product is not a toy.
8. After blowing, be sure to hang the product on a hook, etc.

If leaving the product in a dusty place, particles will enter the product and may result in a malfunction.



9. When using or storing the blow gun, please be sure there is no twisting, strain, tension or moment load on the port and tubing. This can cause damage to fittings and flattening, bursting or disconnection of tubing, etc.

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