SMC

Blow Gun

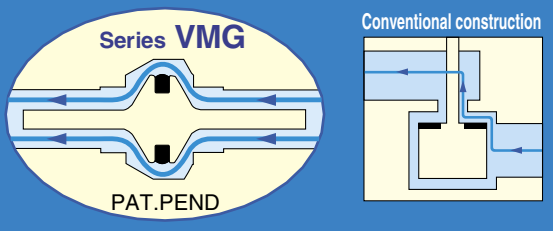
Effective sectional area
30 mm²

Effective sectional area
30 mm²

Pressure loss is less than 0.1 MPa
(Nozzle size: ø2.5)

Special valve design and construction saves energy

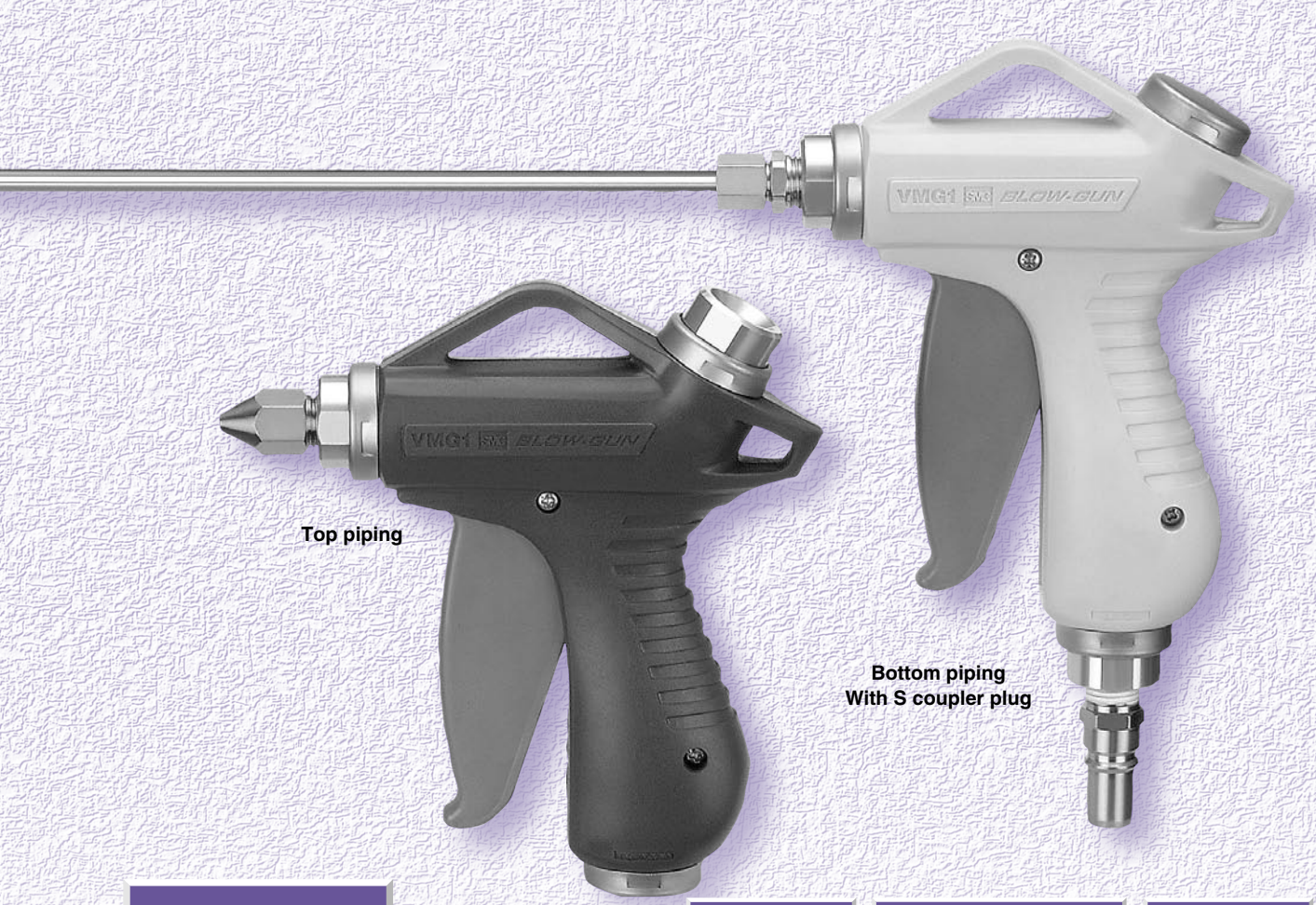
Reduced pressure drop due to smooth flow of fluid



<Dark blue>
Bottom piping

<White>
Top piping

Series VMG

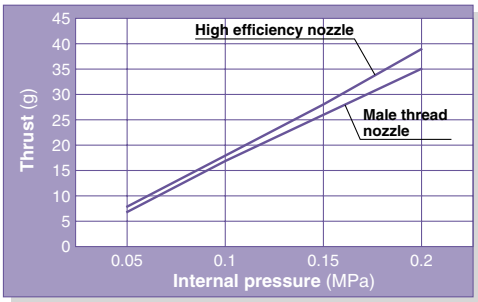


Nozzle type
Male thread nozzle
Low noise nozzle
High efficiency nozzle
Copper extension nozzle

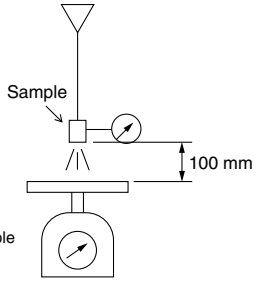
Piping direction	Piping type	Body colour
Bottom	Rc, NPT, G 1/4, 3/8	White
Top	With S coupler (quick connect) plug	Dark blue

High efficiency nozzle

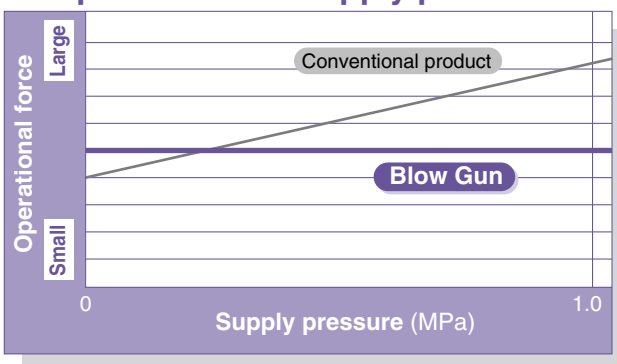
Air blow thrust has been increased by 10%. (comparison with nozzles of the same diameter)



Scale: Accuracy
Measurement value
±0.2% or less
Temperature: 20°C
Distance between a sample and the scale: 100 mm

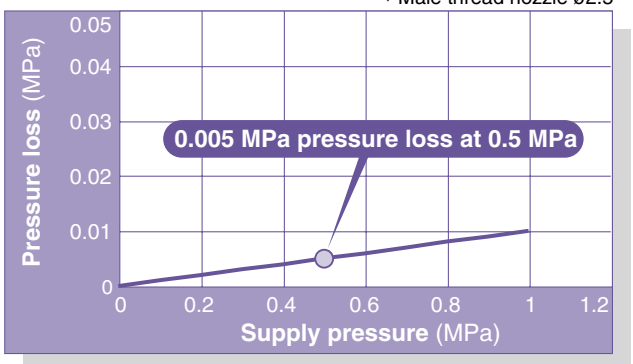


Provides constant operational force irrespective of the supply pressure



Pressure loss

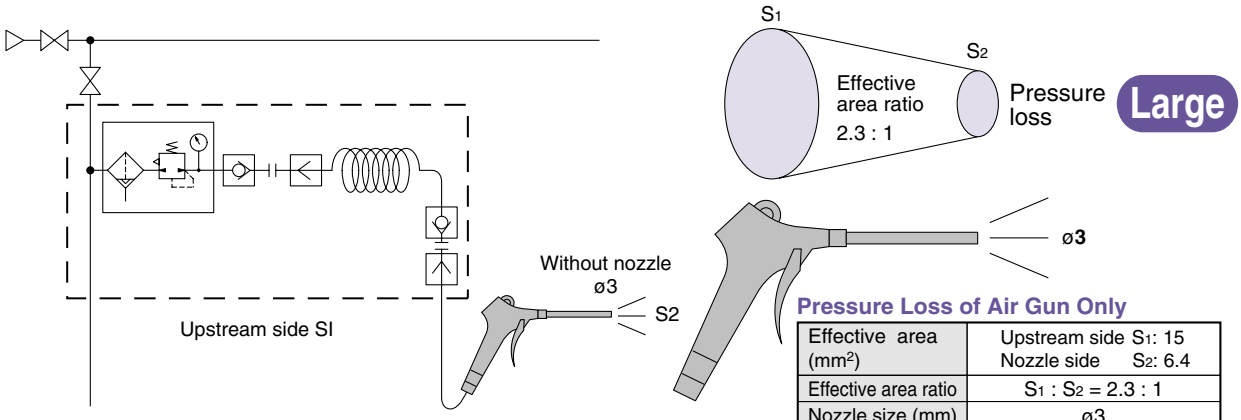
∗ Male thread nozzle ø2.5



Example of Improvement

Before Improvement

In the case of air guns, energy saving measures are not considered.

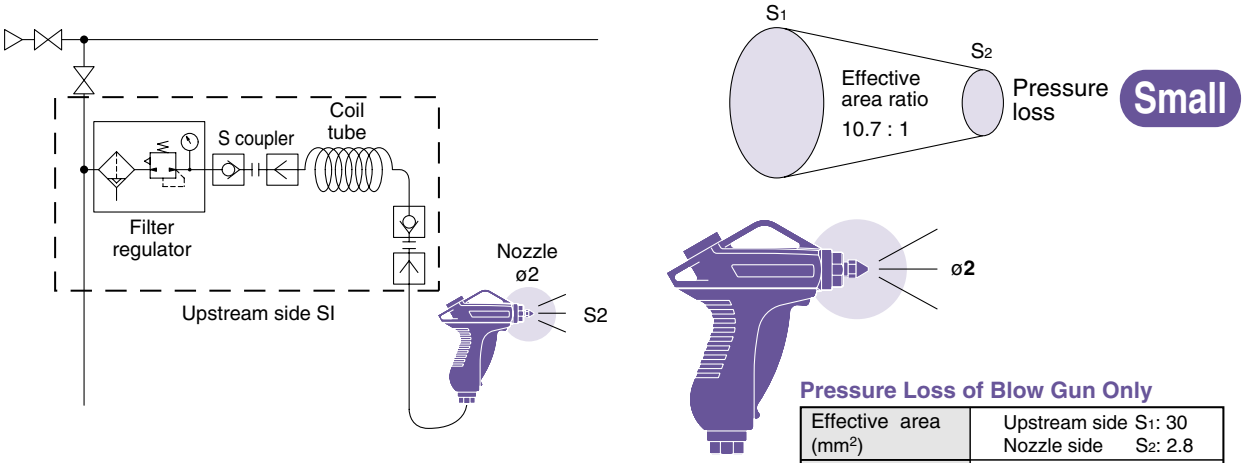


Pressure Loss of Air Gun Only

Effective area (mm^2)	Upstream side S_1: 15 Nozzle side S_2: 6.4
Effective area ratio	$S_1 : S_2 = 2.3 : 1$
Nozzle size (mm)	ø3
Number of nozzles	1
Supply pressure	0.700 MPa
Regulator pressure	0.300 MPa
Outlet pressure	0.260 MPa
Pressure loss	**0.040 MPa**

After Improvement

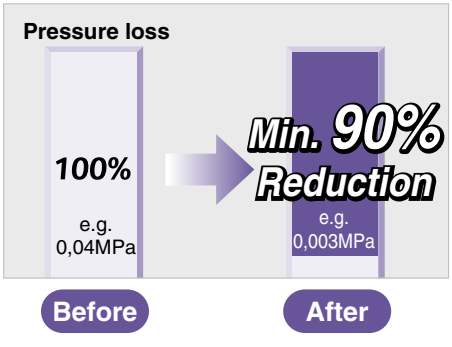
Change to fittings, tubing and Blow Gun with large effective areas.



Pressure Loss of Blow Gun Only

Effective area (mm^2)	Upstream side S_1: 30 Nozzle side S_2: 2.8
Effective area ratio	$S_1 : S_2 = 10.7 : 1$
Nozzle size (mm)	ø2
Number of nozzles	1
Supply pressure	0.700 MPa
Regulator pressure	0.300 MPa
Outlet pressure	0.297 MPa
Pressure loss	**0.003 MPa**

Effect of Energy Saving Improvement



Related Products:

Nozzle: Series KN ····· Page 4
S Coupler: Series KK ····· Page 5
S Coupler: Series KKH ····· Page 7
Regulator: Series AR ····· Page 8
Filter Regulator: Series AW ····· Page 9

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 colour

W	White
BU	Dark blue

Piping connection type

-	Rc
N	NPT
F	G

Connection size

	Piping connection system	Size and part no.	
02	Screw-in type	Port size	1/4
03			3/8
11	With S coupler plug Note 1)	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.

Nozzle

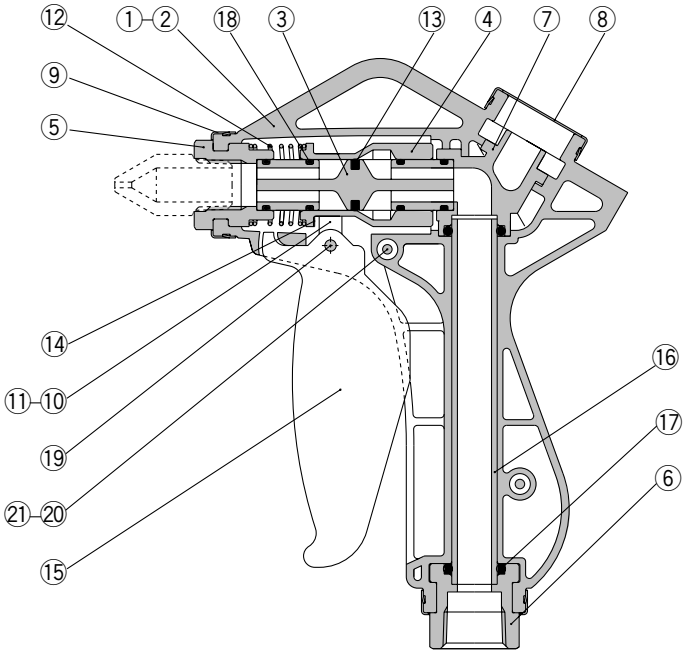
	Type		Nozzle model	Nozzle size
-	Without nozzle			
01	Male thread nozzle		KN-R02-100	ø1
02			KN-R02-150	ø1.5
03			KN-R02-200	ø2
04			KN-R02-250	ø2.5
11	High efficiency nozzle		KNH-R02-100	ø1
12			KNH-R02-150	ø1.5
13			KNH-R02-200	ø2
21	Low noise nozzle with male thread		KNS-R02-075-4	ø0.75 x 4
22			KNS-R02-090-8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

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.

Specifications

Fluid	Air	
Operating pressure range	0 to 1.0 MPa	
Proof pressure	1.5 MPa	
Ambient and fluid temperature	−5 to 60°C (With no condensation)	
Effective area	30 mm² (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



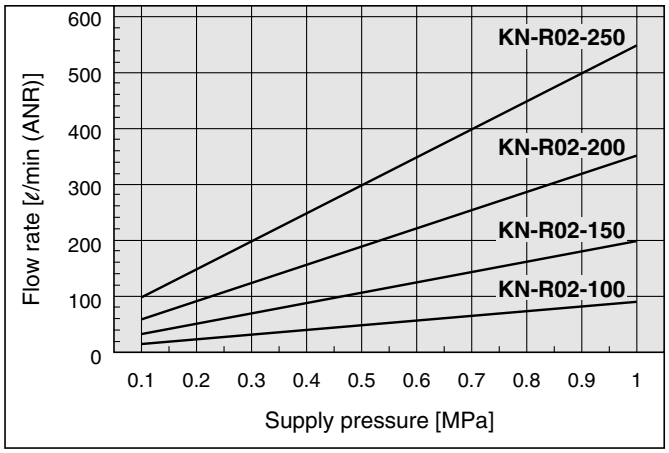
Component Parts

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	Stainless steel	
9	Ring	Stainless steel	
10	Arm L	Stainless steel	
11	Arm R	Stainless steel	
12	Spring	Stainless steel	
13	Main valve seal	HNBR	
14	Guide cover	Stainless steel	
15	Lever	PBT	
16	Tube	PBT	∗Only for VMG11
17	O-ring	NBR	
18	O-ring	NBR	
19	Parallel pin	Stainless steel	
20	Round head Phillips screw	Stainless steel	
21	Hexagon nut	Stainless steel	

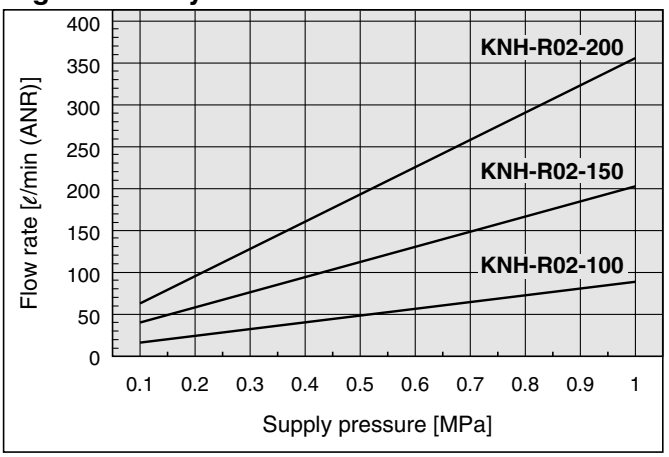
Flow Characteristics

Note) Values when the main valve is fully open.

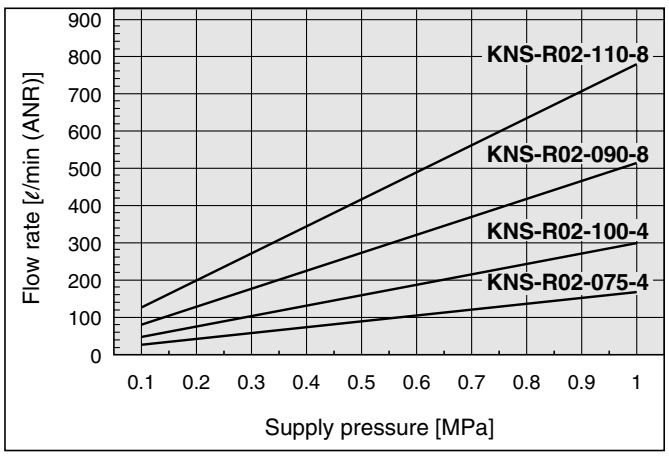
Male thread nozzle



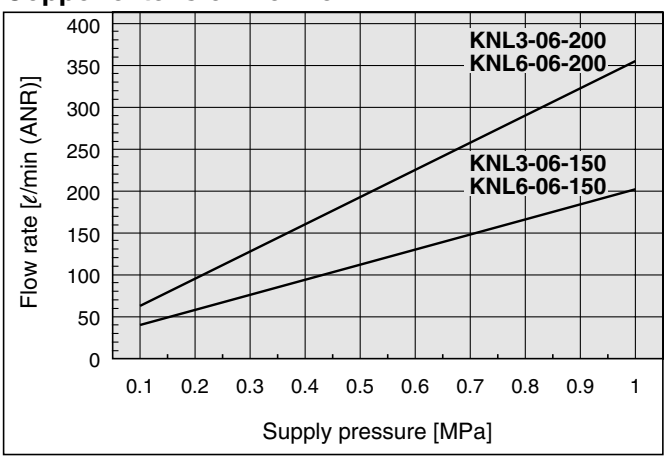
High efficiency nozzle



Low noise nozzle with male thread

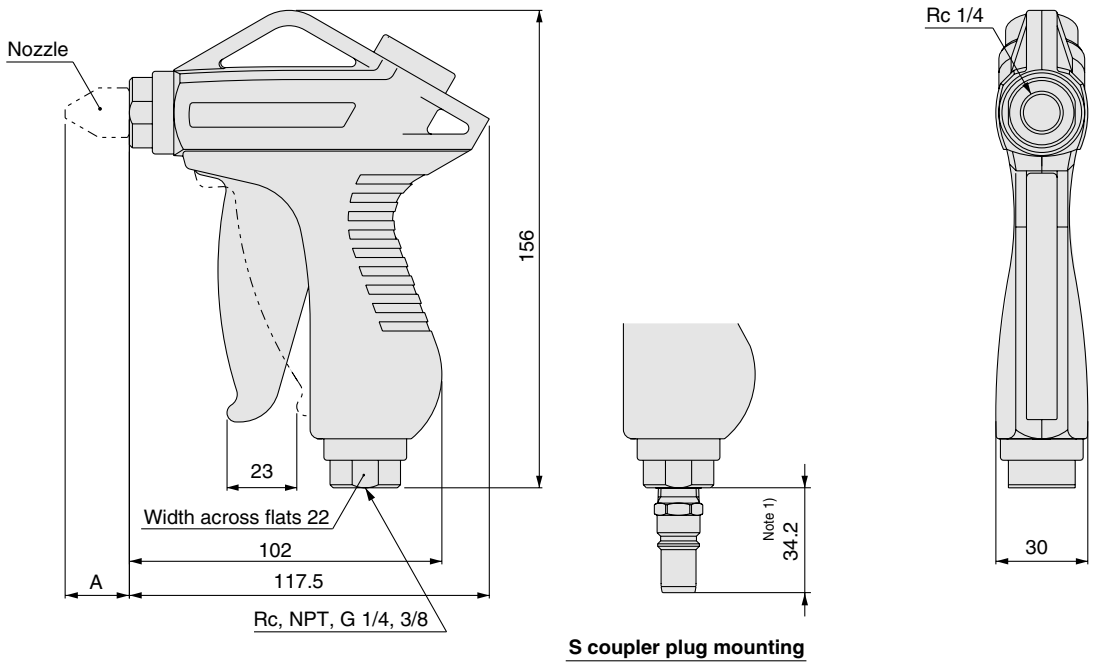


Copper extension nozzle

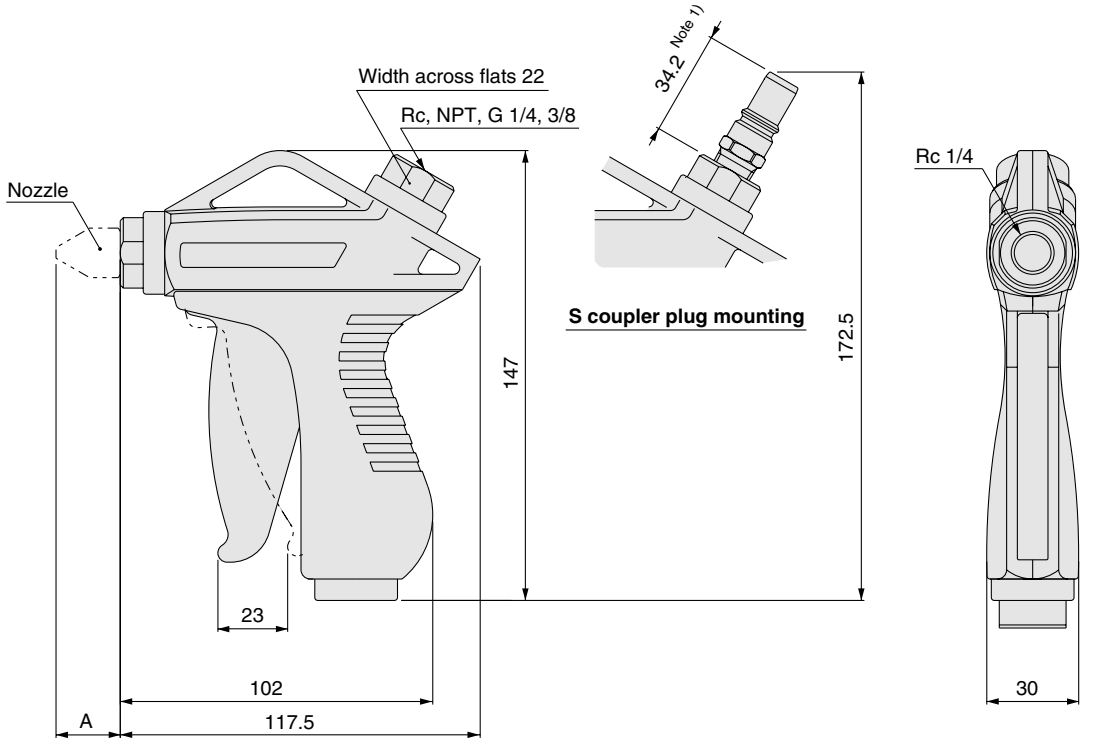


Dimensions

VMG11/Piping entry: Bottom



VMG12/Piping entry: Top



(mm)

Type	Nozzle model	Nozzle size	A 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

(mm)

Type	Nozzle model	Nozzle size	A 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
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

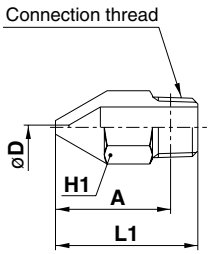
Note 1) Reference dimensions after installation

Dimensions: Nozzle/Series KN

Male thread nozzle: KN

(mm)

Model	Nozzle size D	Connection thread	Width across flats H_1	L_1	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

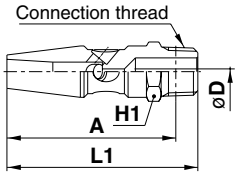


High efficiency nozzle: KNH

(mm)

Air blow thrust has been increased by 10%.

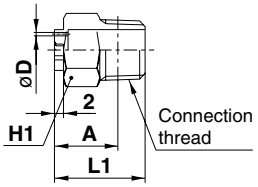
Model	Nozzle size D	Connection thread	Width across flats H_1	L_1	A
KNH-R02-100	ø1	R 1/4	14	52	46
KNH-R02-150	ø1.5	R 1/4	14	52	46
KNH-R02-200	ø2	R 1/4	14	52	46



Low noise nozzle with male thread: KNS

(mm)

Model	Nozzle size D	Connection thread	Width across flats H_1	L_1	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

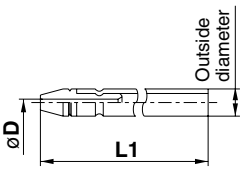


Copper extension nozzle: KNL

(mm)

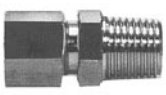
Model	Nozzle size D	Outside diameter	L_1
KNL3-06-150	ø1.5	ø6	300
KNL3-06-200	ø2	ø6	300
KNL6-06-150	ø1.5	ø6	600
KNL6-06-200	ø2	ø6	600

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)

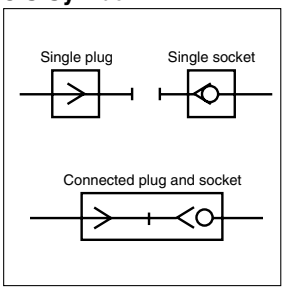
Male connector
H06-02



Related Products: S Coupler
Series KK

Large effective areas
Light weight

JIS Symbol



Specifications

Fluid	Air, Water (standard industrial water)
Operating pressure range	0 to 1.0 MPa
Proof pressure	1.5 MPa
Ambient and fluid temperature	Air: –5 to 60°C Water: 5 to 40°C
Plating, Sealant	Electroless nickel plated (copper-free application), With male thread sealant

Performance

Plug and socket connection	One-touch connection and release
Check valve	Socket: Built-in check valve (standard)
Sleeve lock mechanism	Locking manual type (standard)

Effective Area

Body size	Plug	Socket	Effective area mm^2
1/4	KK4P-02MS	KK4S-02MS	39

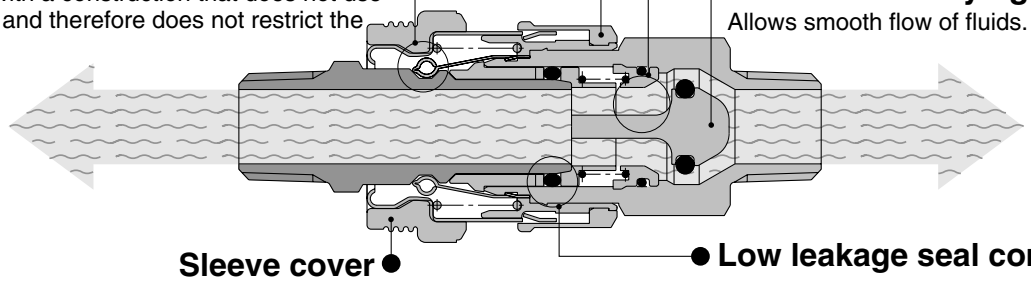
The pulling strength for the plugs and sockets has been improved.
We standardised the product with a sleeve cover. Changing the lock ring material to a shock absorbing PBT further improved the shock absorbent performance.

Lock ring
Shock absorbent PBT

No spring located in the flow path
Loss of effective area is minimised because there is no valve spring to block the flow path.

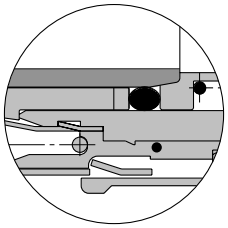
Employs a unique connection method
A slim body design and large effective area are achieved with a construction that does not use steel balls and therefore does not restrict the flow path.

Check valve end configuration facilitates rectifying effect
Allows smooth flow of fluids.



Sleeve cover
(Except for Series KK2)

Low leakage seal construction
Reliable sealing is achieved by surface contact.



Light weight
Together with a reduction of the body size, pressing parts and resin parts are used to achieve an overall weight reduction.

PAT.

Plug (P)

Male thread type

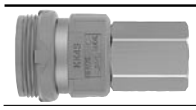
	Body size	Port size	Part no.
	1/4	R 1/4	**KK4P-02MS**

Socket (S)

Male thread type

	Body size	Port size	Part no.
	1/4	R 1/4	**KK4S-02MS**
		R 3/8	**-03MS**
		R 1/2	**-04MS**

Female thread type

	Body size	Port size	Part no.
	1/4	Rc 1/4	**KK4S-02F**
		Rc 3/8	**-03F**

Nut fitting type (for fiber reinforced urethane hose)

	Body size	Applicable hose I.D./O.D. mm	Part no.
	1/4	8/12	**KK4S-80N**
		8.5/12.5	**-85N**

Straight type with One-touch fitting

	Body size	Applicable tubing O.D. mm	Part no.
	1/4	10	**KK4S-10H**
		12	**-12H**

Elbow type with One-touch fitting

	Body size	Applicable tubing O.D. mm	Part no.
	1/4	10	**KK4S-10L**
		12	**-12L**

Related Products: S Coupler
Series KKH

- **A rubber cover and a super high impact absorbent PBT resin are used in the body's outer edge to absorb impact from a drop which is equivalent to 0.5 J impact energy.**
- **The flow is equivalent to the conventional models (Series KK).**
- **The pulling strength for the plugs and sockets has been improved. Twice as strong as the conventional models.**

Specifications

Fluid	Air, Water (standard industrial water)
Operating pressure range	0 to 1.0 MPa
Proof pressure	1.5 MPa
Ambient and fluid temperature	Air: –5 to 60°C Water: 5 to 40°C
Plating, Sealant	Electroless nickel plated (copper-free application), With male thread sealant
Connection plug	Series KK plug

Performance

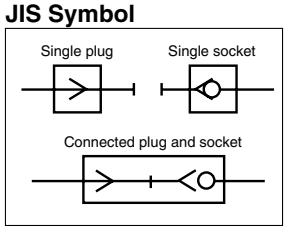
Plug and socket connection	One-touch connection and release
Check valve	Socket: Built-in check valve (standard)
Sleeve lock mechanism	None

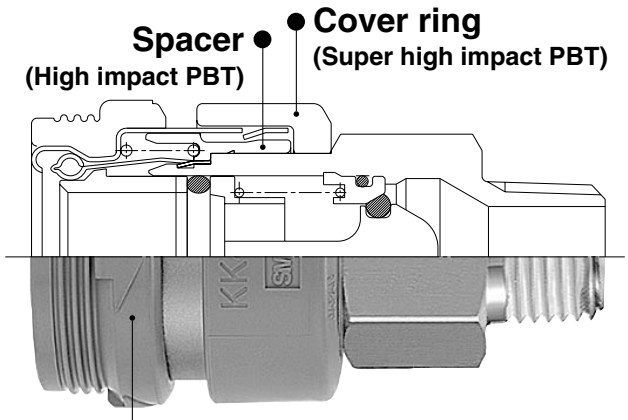
Effective Area

Body size	Plug	Socket	Effective area mm²
1/4	KK4P-02MS	KKH4S-02MS	39

The flow is the same since the internal parts use the common parts as the circle-shaped standard products.

JIS Symbol





PAT.

Socket (S)

Male thread type

Body size	Port size	Part no.
1/4	R1/4	**KKH4S-02MS**
	R3/8	**-03MS**
	R1/2	**-04MS**

Female thread type

Body size	Port size	Part no.
1/4	R1/4	**KKH4S-02F**
	R3/8	**-03F**

Nut fitting type (for fiber reinforced urethane hose)

Body size	Applicable hose I.D./O.D. mm	Part no.
1/4	8/12	**KKH4S-80N**
	8.5/12.5	**-85N**

Series KKH are only available as sockets.
Series KK should be used as plugs.

Related Products: Regulator

Series AR30 to 60

AR30

How to Order

AR | **30** | **F** | **03** | **BE** | **1N**

Regulator

Body size

30	3/8
40	1/2
50	3/4
60	1

Thread type

-	Metric thread (M5)
	Rc
N	NPT
F	G

Port size

02	1/4
03	3/8
04	1/2
06	3/4
10	1

Option

Symbol	Contents	Applicable model
1 Note 3)	0.02 to 0.2 MPa setting	AR30 to 60
N	Non-relieving	AR30 to 60
R	Flow direction: Right → Left	AR30 to 60
Z Note 4)	Display units for product name plate and pressure gauge: PSI, °F	AR30 to 60

When more than one specification is required, indicate in ascending alphanumeric order.

Note 3) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more.

Note 4) For M5 and NPT thread types. Under the New Measurement Law, the product is only sold outside Japan. (The SI unit is used inside Japan.)

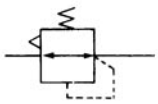
Accessory

Symbol	Contents	Applicable model
-	–	—
B Note 1)	With bracket	AR30 to 60
E	With square embedded type pressure gauge (with limit indicator)	AR30 to 60
G Note 2)	Round type pressure gauge (with limit indicator)	AR30 to 60
H	With set nut (for panel mount)	AR30 to 40

Note 1) Bracket assembly is not mounted at the time of shipment, but rather packaged together with the regulator for shipment.

Note 2) Mounting threads pressure gauge: AR30−1/8; AR40 to 60−1/4.
Pressure gauge is not mounted at the time of shipment, but rather packaged together with the regulator for shipment.

JIS Symbol



Accessory/Optional Combinations

◎: Combination available
○: Varies depending on a model
▭: Combination not available
△ : Available only with NPT thread

Accessory/Optional specifications \ Combination		Symbol	Accessory				Option				Applicable regulator
			B	**E**	**G**	**H**	**1**	**N**	**R**	**Z**	**AR30 to 60**
Accessory	**With bracket (with set nut)**	**B**		○	◎		◎	◎	◎	△	◎
	Square embedded type pressure gauge	**E**	◎			◎	◎	◎	◎	△	◎
	Round type pressure gauge	**G**	◎			◎	◎	◎	◎	△	◎
	With set nut (for panel mount)	**H**		○	◎		◎	◎	◎	△	○
Option	**0.02 to 0.2 MPa setting**	**–1**	◎	○	◎	◎		◎	◎	△	◎
	Non-relieving type	**–N**	◎	○	◎	◎	◎		◎	△	◎
	Flow direction: Right → Left	**–R**	◎	○	◎	◎	◎	◎		△	◎
	Display units for product name plate and pressure gauge: PSI, °F	**–Z**	△	△	△	△	△	△	△		△

Standard Specifications

Model	AR30	AR40	AR40-06	AR50	AR60
Port size	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1
Fluid	Air				
Proof pressure	1.5 MPa				
Maximum operating pressure	1.0 MPa				
Regulating pressure range	0.05 to 0.85 MPa				
Gauge port size Note 1)	1/8	1/4	1/4	1/4	1/4
Relief pressure	Set pressure + 0.05 MPa (at relief flow rate of 0.1 ℓ/min (ANR))				
Ambient and fluid temperature	−5 to 60°C (With no condensation)				
Construction	Relieving type				
Weight (kg)	0.29	0.44	0.47	1.17	1.22

Note 1) The type with square embedded pressure gauge does not have connection threads.

Accessory Part No.

Accessory \ Applicable model			AR30	AR40	AR40-06	AR50	AR60
Bracket assembly			AR30P-270AS	AR40P-270AS	AR40P-270AS	AR50P-270AS Note 4)	AR50P-270AS Note 4)
Set nut			AR30P-260S	AR40P-260S	AR40P-260S	– Note 5)	– Note 5)
Note 2) **Pressure gauge**	1.0 MPa	**Round type**	G36-10-□01	G46-10-□02	G46-10-□02	G46-10-□02	G46-10-□02
		Square embedded type Note 3)	GC3-10AS	GC3-10AS	GC3-10AS	GC3-10AS	GC3-10AS
	0.2 MPa	**Round type**	G36-2-□01	G46-2-□02	G46-2-□02	G46-2-□02	G46-2-□02
		Square embedded type Note 3)	GC3-2AS	GC3-2AS	GC3-2AS	GC3-2AS	GC3-2AS

Note 1) Assembly includes a bracket and set nuts.

Note 2) □ in part numbers for a round type pressure gauge indicates a type of connection threads. No indication is necessary for R; however, indicate and N for NPT. Contact SMC for regarding the connection thread NPT and pressure gauge supply for PSI unit specifications.

Note 3) Includes one O-ring and 2 mounting screws.

Note 4) Assembly includes a bracket and 2 mounting screws.

Note 5) Contact SMC regarding the set nuts for AR50 and AR60.

Related Products: Filter Regulator
Series AW30/40

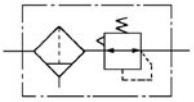
How to Order

Integration of a filter and regulator allows simple wiring.

AW40

Direct operated type, Relieving type

JIS Symbol



AW 30 – F 03 BE – 1N

Filter regulator

Body size

30	3/8
40	1/2

Thread type

Nil	Metric thread (M5)
	Rc
N Note 1)	NPT
F Note 2)	G

Note 1) Drain guide is NPT1/4 (applicable to AW30 and 40), and the exhaust port for auto-drain comes with ø3/8" One-touch fitting (applicable to AW30 and 40).

Note 2) Drain guide is G1/4 (applicable to AW30 and 40).

Port size

02	1/4
03	3/8
04	1/2
06	3/4

Option

Symbol	Contents	Applicable model
1 Note 5)	0.02 to 0.2 MPa setting	AW30/40
2	Metal bowl	AW30/40
6	Nylon bowl	AW30/40
8	Metal bowl with level gauge	AW30/40
J Note 6)	Drain guide 1/4	AW30/40
N	Non-relieving	AW30/40
R	Flow direction: Right → Left	AW30/40
W	Drain cock with barb fitting: ø6 x ø4 nylon tube	AW30/40
Z Note 7)	Display units for product name plate, caution plate for bowl, and pressure gauge: PSI, °F	AW30/40

When more than one specification is required, indicate in ascending alphabetical order.

Note 5) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more.

Note 6) Without valve function.

Note 7) For M5 and NPT thread types. Under the New Measurement Law, this type is only sold outside Japan. (The SI unit is used inside Japan.)

Accessory

Symbol	Contents	Applicable model
Nil	—	—
B Note 3)	With bracket	AW30/40
C	Float type auto-drain (N.C)	AW30/40
D	Float type auto-drain (N.O)	AW30/40
E	With square embedded type pressure gauge (with limit indicator)	AW30/40
G Note 4)	With round type pressure gauge (with limit indicator)	AW30/40
P	Panel mount (with set nut)	AW30/40

Note 3) Bracket assembly is not mounted at the time of shipment, but rather packaged together with the filter regulator for shipment.

Note 4) Mounting thread for pressure gauge: AW30—1/8; AR40—1/4. Pressure gauge is not mounted at the time of shipment, but rather packaged together with the regulator for shipment.

Accessory/ Optional Combinations

◎: Combination available ▭: Combination not available ○: Varies depending on a model △: Available only with NPT thread

Accessory/ Optional specifications \ Combination		Symbol	Accessory						Option										Applicable filter regulator
			B	C	D	E	G	P	1	2	6	8	C	J	N	R	W	Z	AW30/40
Accessory	With bracket (with set nut)	B		◎	○	○	◎		◎	◎	◎	○	○	○	◎	◎	○	△	◎
	Float type auto-drain (N.C.)	C	◎			○	◎	◎	◎	◎	◎	○	○		◎	◎		△	◎
	Float type auto-drain (N.O.)	D	◎			◎	◎	◎	◎	◎	◎	◎			◎	◎		△	◎
	Square embedded type pressure gauge	E	◎	◎	◎			◎	◎	◎	◎	○	○	○	◎	◎	○	△	◎
	Round pressure gauge	G	◎	◎	○			◎	◎	◎	◎	○	○	○	◎	◎	○	△	◎
	Panel mount (with set nut)	P		◎	○	○	◎		◎	◎	◎	○	○	○	◎	◎	○	△	◎
Option	0.02 to 0.2 MPa setting	–1	◎	◎	○	○	◎	◎		◎	◎	○	○	○	◎	◎	○	△	◎
	Metal bowl	–2	◎	◎	○	○	◎	◎	◎					○	◎	◎		△	◎
	Nylon bowl	–6	◎	◎	○	○	◎	◎	◎				○	○	◎	◎	○	△	◎
	Metal bowl with level gauge	–8	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎		△	◎
	With bowl guard	–C	◎	◎		◎	◎	◎	◎		◎				◎	◎		△	
	Drain guide 1/4	–J	◎			◎	◎	◎	◎	◎	◎	◎			◎	◎		△	◎
	Non-relieving type	–N	◎	◎	○	○	◎	◎	◎	◎	◎	○	○	○		◎	○	△	◎
	Flow direction: Right → Left	–R	◎	◎	○	○	◎	◎	◎	◎	◎	○	○	○	◎		○	△	◎
	Drain cock with barb fitting: ø6 x ø4 nylon tubing	–W	◎			◎	◎	◎	◎		◎				◎	◎		△	◎
	Display units for product name plate, caution plate for bowl, and pressure gauge: PSI, °F	–Z	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△		△

Standard Specifications

Model		AW30	AW40	AW40-06
Port size		1/4, 3/8	1/4, 3/8, 1/2	3/4
Fluid		Air		
Proof pressure		1.5 MPa		
Maximum operating pressure		1.0 MPa		
Regulating pressure range		0.05 to 0.85 MPa		
Pressure gauge port size Note 1)		1/8	1/4	1/4
Relief pressure		Set pressure + 0.05 MPa (at relief flow rate of 0.1 ℓ/min (ANR))		
Ambient and fluid temperature		−5 to 60°C (With no condensation)		
Nominal filtration rating		5 μm		
Drain capacity (cm³)		25	45	45
Bowl material		Polycarbonate		
Construction		Relieving type		
Weight (kg)		0.40	0.72	0.75
Attachment	**Bowl guard**	●	●	●

Note 1) The type with square embedded pressure gauge does not have connection threads.

Accessory Part No.

Accessory \ Applicable model			AW30	AW40	AW40-06
Bracket assembly			AR30P-270AS	AR40P-270AS	AR40P-270AS
Set nut Note 1)			AR30P-260S	AR40P-260S	AR40P-260S
Pressure gauge	1.0 MPa	**Round type**	G36-10-□01	G46-10-□02	G46-10-□02
		Square embedded type Note 3)	GC3-10AS	GC3-10AS	GC3-10AS
	0.2 MPa	**Round type**	G36-2-□01	G46-2-□02	G46-2-□02
		Square embedded type Note 3)	GC3-2AS	GC3-2AS	GC3-2AS
Float type auto-drain		N.O.	AD38	AD48	AD48
		N.C.	AD37	AD47	AD47

Note 1) Assembly includes a bracket and set nuts.

Note 2) □ in part numbers of the round type pressure gauge indicates a type of connection thread. No indication is necessary for R; however, indicate N for NPT. Contact SMC regarding the connection thread NPT and supply of the pressure gauge for PSI unit specifications.

Note 3) Includes one O-ring and 2 mounting screws.

Note 4) Minimum operating pressure: N.O. type—0.1 MPa; N.C. type— 0.15 MPa. Contact SMC regarding the specifications for PSI unit and °F.

Series VMG
Safety Instructions

These safety instructions are intended to prevent a hazardous situation and/or equipment damage. These instructions indicate the level of potential hazard by labels of **"Caution", "Warning"** or **"Danger"**. To ensure safety, be sure to observe ISO 4414 Note 1), JIS B 8370 Note 2) and other safety practices.

⚠ Caution : Operator error could result in injury or equipment damage.

⚠ Warning : Operator error could result in serious injury or loss of life.

⚠ Danger : In extreme conditions, there is a possible result of serious injury or loss of life.

Note 1) ISO 4414: Pneumatic fluid power--General rules relating to systems.
Note 2) JIS B 8370: General Rules for Pneumatic Equipment

⚠ Warning

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

Since the products specified here are used in various operating conditions, their compatibility for the specific pneumatic system must be based on specifications or post analysis and/or tests to meet your specific requirements. The expected performance and safety assurance are the responsibility of the person who has determined the compatibility of the system. This person should continuously review the suitability of all items specified, referring to the latest catalogue information with a view to giving due consideration to any possibility of equipment failure when configuring a system.

2. Only trained personnel should operate pneumatically operated machinery and equipment.

Compressed air can be dangerous if handled incorrrectly. Assembly, handling or repair of pneumatic systems should be performed by trained and experienced operators.

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

1. Inspection and maintenance of machinery/equipment should only be performed once measures to prevent falling or runaway of the driven objects have been confirmed.
2. When equipment is removed, confirm that safety process as mentioned above. Turn off the supply pressure for this equipment and exhaust all residual compressed air in the system.
3. Before machinery/equipment is restarted, take measures to prevent quick extension of a cylinder piston rod, etc.

4. Contact SMC if the product will be used in any of the following conditions:

1. Conditions and environments beyond the given specifications, or if product is used outdoors.
2. Installation on equipment in conjunction with atomic energy, railway, air navigation, vehicles, medical equipment, food and beverages, recreation equipment, emergency stop circuits, clutch and brake circuits in press applications, or safety equipment.
3. An application which has the possibility of having negative effects on people, property, or animals, requiring special safety analysis.

Series VMG
Specific Product Precautions 1

Be sure to read this and "Precautions for Handling Peumatic Devices" (M-03-E3A) before using.

Selection

⚠Warning

1. Confirm the specifications.

The products in this catalogue 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.

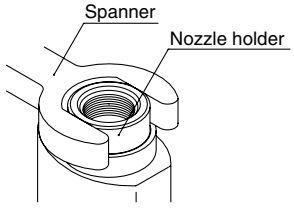
Mounting

⚠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

Insufficient tightening may cause loosening of the nozzle.

Piping

⚠Caution

1. Confirm the model, type and size before installation.

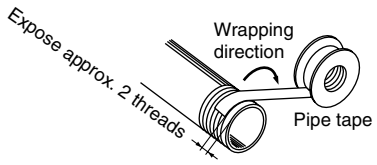
Also make sure that there is no scratches, gouges or cracks on the product.

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.

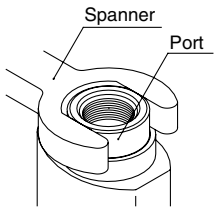
3. Wrapping of pipe tape

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.



4. When tightening 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.

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



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

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.

Back page 2

Series VMG
Specific Product Precautions 2

Be sure to read this and "Precautions for Handling Peumatic Devices" (M-03-E3A) before using.

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.

Operating Environment

⚠Warning

1. Do not use in an atmosphere of corrosive gases, chemicals, sea water, water or water vapour 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 exposed to cutting oil, lubricant oil or coolant oil. Contact SMC for use in an environment where the product is exposed to such liquid as cutting oil, lubricant oil or coolant oil.

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.

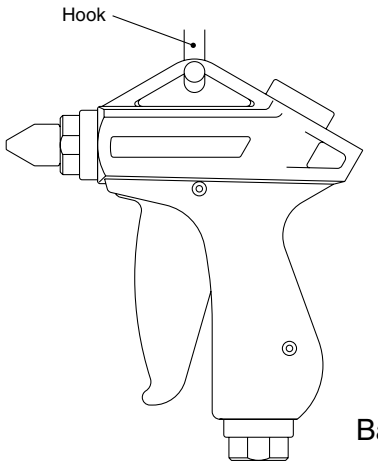
5. Do not drop, step on or hit the product. It may cause damage to the product.

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.



EUROPEAN SUBSIDIARIES:

Austria
SMC Pneumatik GmbH (Austria).
Girakstrasse 8, A-2100 Korneuburg
Phone: +43 2262-62280, Fax: +43 2262-62285
E-mail: office@smc.at
http://www.smc.at

Belgium
SMC Pneumatics N.V./S.A.
Nijverheidsstraat 20, B-2160 Wommelgem
Phone: +32 (0)3-355-1464, Fax: +32 (0)3-355-1466
E-mail: post@smcpneumatics.be
http://www.smcpneumatics.be

Bulgaria
SMC Industrial Automation Bulgaria EOOD
16 kliment Ohridski Blvd., fl.13 BG-1756 Sofia
Phone:+359 2 9744492, Fax:+359 2 9744519
E-mail: office@smc.bg
http://www.smc.bg

Croatia
SMC Industrijska automatika d.o.o.
Crnomerec 12, 10000 ZAGREB
Phone: +385 1 377 66 74, Fax: +385 1 377 66 74
E-mail: office@smc.hr
http://www.smceu.com

Czech Republic
SMC Industrial Automation CZ s.r.o.
Hudcova 78a, CZ-61200 Brno
Phone: +420 5 414 24611, Fax: +420 5 412 18034
E-mail: office@smc.cz
http://www.smc.cz

Denmark
SMC Pneumatik A/S
Knudsminde 4B, DK-8300 Odder
Phone: +45 70252900, Fax: +45 70252901
E-mail: smc@smc-pneumatik.dk
http://www.smc-pneumatik.com

Estonia
SMC Pneumatics Estonia OÜ
Laki 12-101, 106 21 Tallinn
Phone: +372 (0)6 593540, Fax: +372 (0)6 593541
E-mail: smc@smcpneumatics.ee
http://www.smcpneumatics.ee

Finland
SMC Pneumatics Finland OY
PL72, Tiistinniityntie 4, SF-02031 ESPOO
Phone: +358 207 513513, Fax: +358 207 513595
E-mail: smcfi@smc.fi
http://www.smc.fi

France
SMC Pneumatique, S.A.
1, Boulevard de Strasbourg, Parc Gustave Eiffel
Bussy Saint Georges F-77607 Marne La Vallee Cedex 3
Phone: +33 (0)1-6476 1000, Fax: +33 (0)1-6476 1010
E-mail: contact@smc-france.fr
http://www.smc-france.fr

Germany
SMC Pneumatik GmbH
Boschring 13-15, D-63329 Egelsbach
Phone: +49 (0)6103-4020, Fax: +49 (0)6103-402139
E-mail: info@smc-pneumatik.de
http://www.smc-pneumatik.de

Greece
S. Parianopoulus S.A.
7, Konstantinoupoleos Street, GR-11855 Athens
Phone: +30 (0)1-3426076, Fax: +30 (0)1-3455578
E-mail: parianos@hol.gr
http://www.smceu.com

Hungary
SMC Hungary Ipari Automatizálási Kft.
Budafoki ut 107-113, H-1117 Budapest
Phone: +36 1 371 1343, Fax: +36 1 371 1344
E-mail: office@smc-automation.hu
http://www.smc-automation.hu

Ireland
SMC Pneumatics (Ireland) Ltd.
2002 Citywest Business Campus, Naas Road, Saggart, Co. Dublin
Phone: +353 (0)1-403 9000, Fax: +353 (0)1-464-0500
E-mail: sales@smcpneumatics.ie
http://www.smcpneumatics.ie

Italy
SMC Italia S.p.A
Via Garibaldi 62, I-20061Carugate, (Milano)
Phone: +39 (0)2-92711, Fax: +39 (0)2-9271365
E-mail: mailbox@smcitalia.it
http://www.smcitalia.it

Latvia
SMC Pneumatics Latvia SIA
Smerla 1-705, Riga LV-1006, Latvia
Phone: +371 781-77-00, Fax: +371 781-77-01
E-mail: info@smclv.lv
http://www.smclv.lv

Lithuania
SMC Pneumatics Lietuva, UAB
Savanoriu pr. 180, LT-01354 Vilnius, Lithuania
Phone: +370 5 264 81 26, Fax: +370 5 264 81 26

Netherlands
SMC Pneumatics BV
De Ruyterkade 120, NL-1011 AB Amsterdam
Phone: +31 (0)20-5318888, Fax: +31 (0)20-5318880
E-mail: info@smcpneumatics.nl
http://www.smcpneumatics.nl

Norway
SMC Pneumatics Norway A/S
Vollsveien 13 C, Granfos Næringspark N-1366 Lysaker
Tel: +47 67 12 90 20, Fax: +47 67 12 90 21
E-mail: post@smc-norge.no
http://www.smc-norge.no

Poland
SMC Industrial Automation Polska Sp.z.o.o.
ul. Konstruktorska 11A, PL-02-673 Warszawa,
Phone: +48 22 548 5085, Fax: +48 22 548 5087
E-mail: office@smc.pl
http://www.smc.pl

Portugal
SMC Sucursal Portugal, S.A.
Rua de Engº Ferreira Dias 452, 4100-246 Porto
Phone: +351 22-610-89-22, Fax: +351 22-610-89-36
E-mail: postpt@smc.smces.es
http://www.smces.es

Romania
SMC Romania srl
Str Frunzei 29, Sector 2, Bucharest
Phone: +40 213205111, Fax: +40 213261489
E-mail: smcromania@smcromania.ro
http://www.smcromania.ro

Russia
SMC Pneumatik LLC.
4B Sverdlovskaja nab, St. Petersburg 195009
Phone.:+812 718 5445, Fax:+812 718 5449
E-mail: info@smc-pneumatik.ru
http://www.smc-pneumatik.ru

Slovakia
SMC Priemyselná Automatizáciá, s.r.o.
Námestie Martina Benku 10, SK-81107 Bratislava
Phone: +421 2 444 56725, Fax: +421 2 444 56028
E-mail: office@smc.sk
http://www.smc.sk

Slovenia
SMC industrijska Avtomatika d.o.o.
Grajski trg 15, SLO-8360 Zuzemberk
Phone: +386 738 85240 Fax: +386 738 85249
E-mail: office@smc-ind-avtom.si
http://www.smc-ind-avtom.si

Spain
SMC España, S.A.
Zuazobidea 14, 01015 Vitoria
Phone: +34 945-184 100, Fax: +34 945-184 124
E-mail: post@smc.smces.es
http://www.smces.es

Sweden
SMC Pneumatics Sweden AB
Ekhagsvägen 29-31, S-141 71 Huddinge
Phone: +46 (0)8-603 12 00, Fax: +46 (0)8-603 12 90
E-mail: post@smcpneumatics.se
http://www.smc.nu

Switzerland
SMC Pneumatik AG
Dorfstrasse 7, CH-8484 Weisslingen
Phone: +41 (0)52-396-3131, Fax: +41 (0)52-396-3191
E-mail: info@smc.ch
http://www.smc.ch

Turkey
Entek Pnömatik San. ve Tic Ltd. Sti.
Perpa Tic. Merkezi Kat: 11 No: 1625, TR-80270 Okmeydani Istanbul
Phone: +90 (0)212-221-1512, Fax: +90 (0)212-221-1519
E-mail: smc-entek@entek.com.tr
http://www.entek.com.tr

UK
SMC Pneumatics (UK) Ltd
Vincent Avenue, Crownhill, Milton Keynes, MK8 0AN
Phone: +44 (0)800 1382930 Fax: +44 (0)1908-555064
E-mail: sales@smcpneumatics.co.uk
http://www.smcpneumatics.co.uk

OTHER SUBSIDIARIES WORLDWIDE:

ARGENTINA, AUSTRALIA, BOLIVIA, BRASIL, CANADA, CHILE, CHINA, HONG KONG, INDIA, INDONESIA, MALAYSIA, MEXICO, NEW ZEALAND, PHILIPPINES, SINGAPORE, SOUTH KOREA, TAIWAN, THAILAND, USA, VENEZUELA

http://www.smceu.com
http://www.smcworld.com

SMC CORPORATION 1-16-4 Shimbashi, Minato-ku, Tokio 105 JAPAN; Phone:03-3502-2740 Fax:03-3508-2480

1st printing **JZ** printing **JZ 30 UK Printed in Spain**