

Blow Gun

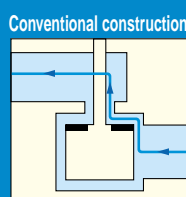
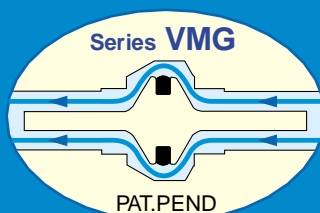
Effective sectional area

30mm²

Pressure loss is less than 1%.
(nozzle size: $\phi 2.5$)

Special valve design and construction saves energy

Reduced pressure drop due to smooth flow of fluid

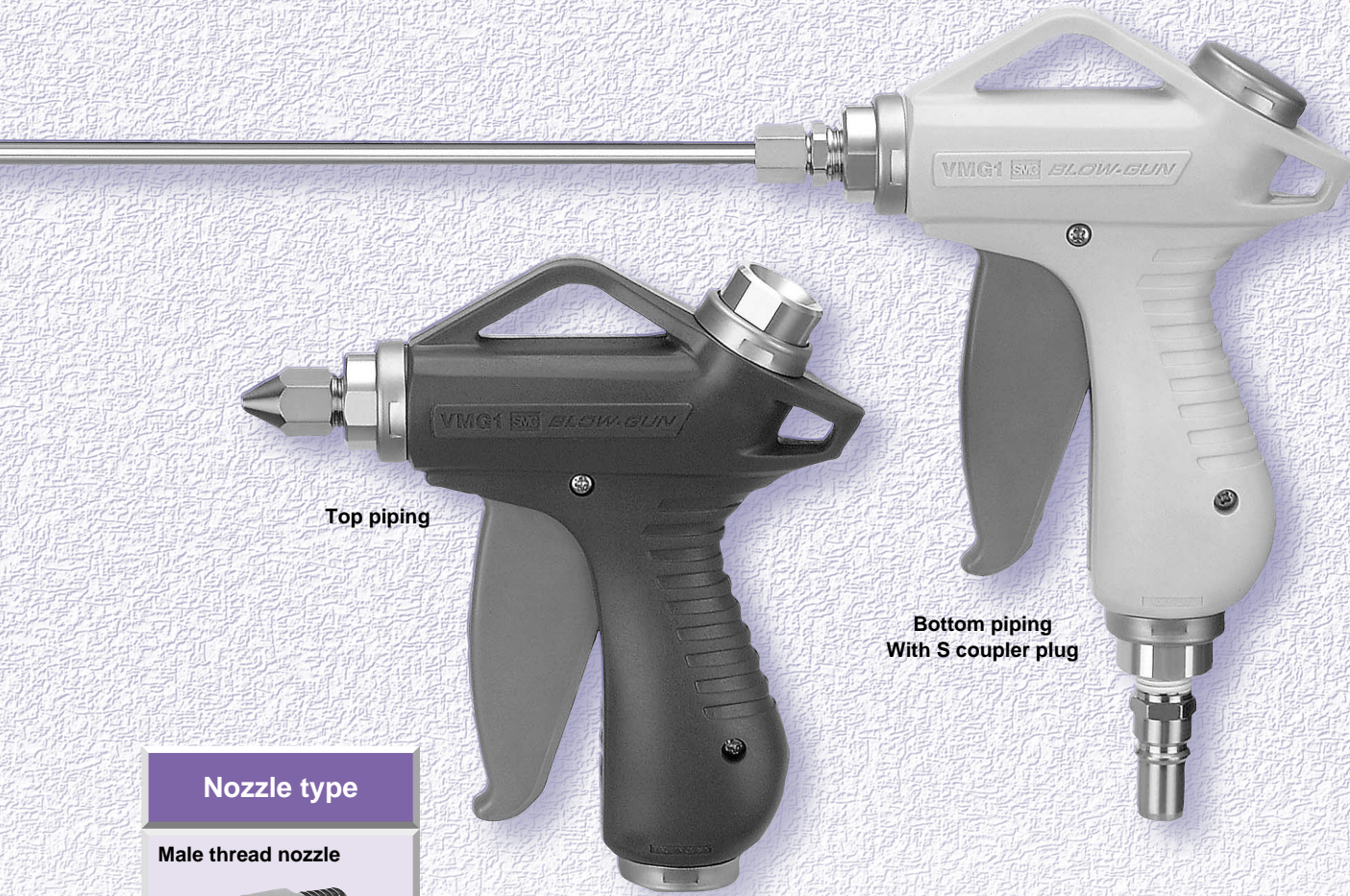


<Dark blue>
Bottom piping



<Urban white>
Top piping

Series VMG



Top piping

Bottom piping
With S coupler plug

Nozzle type

- Male thread nozzle
- Low noise nozzle
- High efficiency nozzle
- Long copper pipe nozzle

Piping direction

- Bottom
- Top

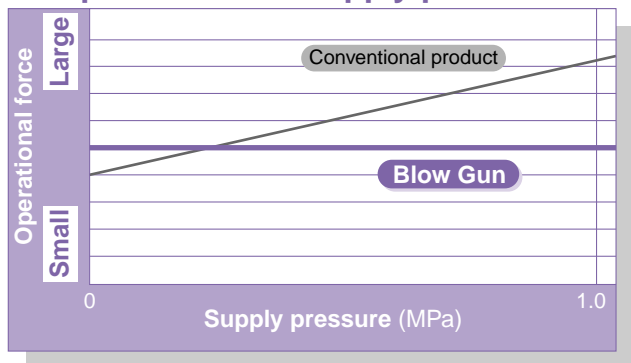
Piping type

- Rc, NPT, G 1/4, 3/8
- With S coupler (quick connect) plug

Body color

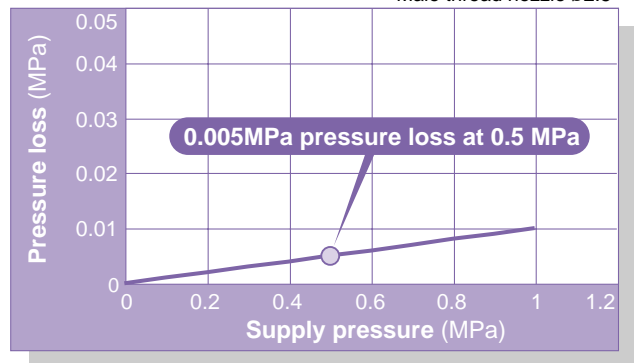
- Urban white
- Dark blue

Provides constant operational force irrespective of the supply pressure



Pressure loss

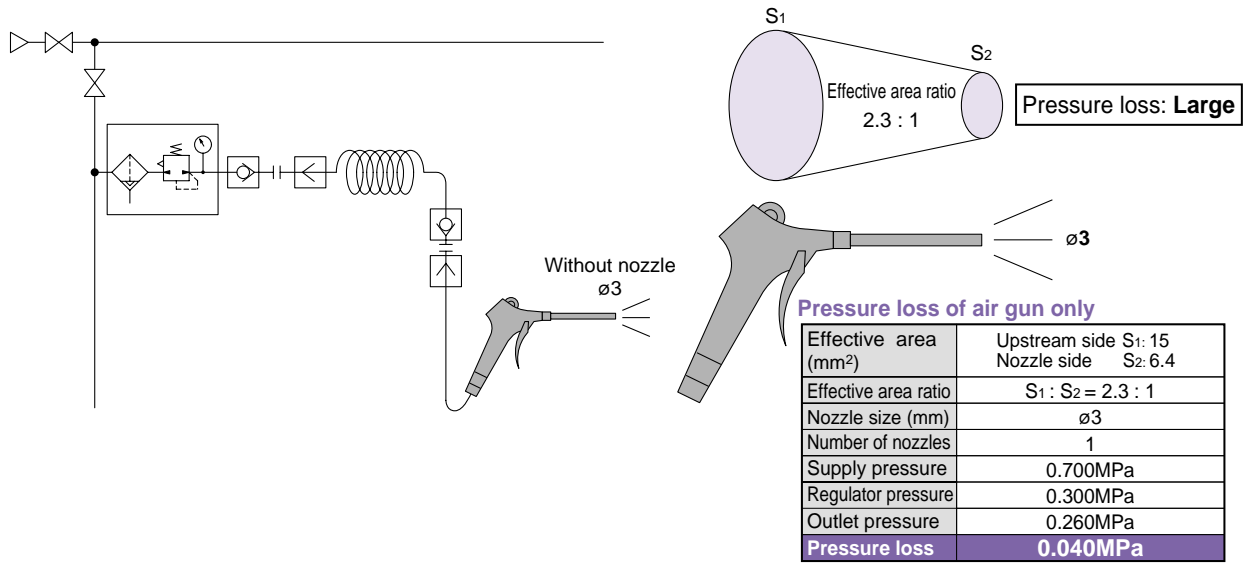
*Male thread nozzle $\phi 2.5$



Example of Improvement

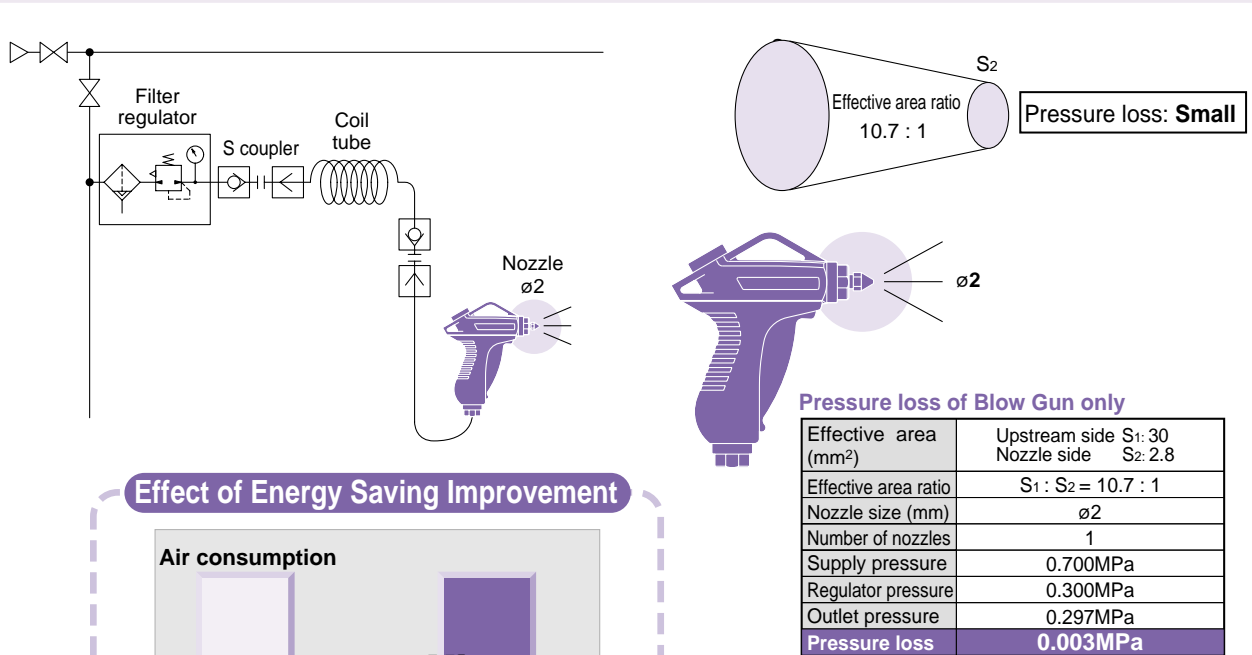
Before Improvement

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

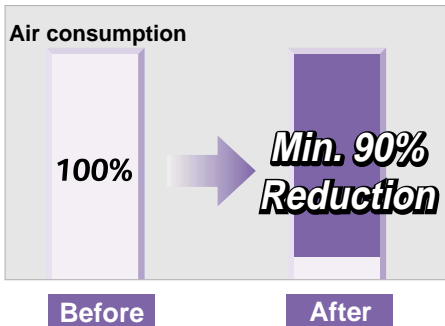


After Improvement

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



Effect of Energy Saving Improvement



Related products

Nozzle/Series KN.....P.4	Regulator/Series AR.....P.8
S coupler/Series KK.....P.5	Filter regulator/Series AW.....P.9
S coupler/Series KKH.....P.7	

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	Urban 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	Length 300mm	KNL3-06-150	ø1.5
32			KNL3-06-200	ø2
33		Length 600mm	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.

Connection size

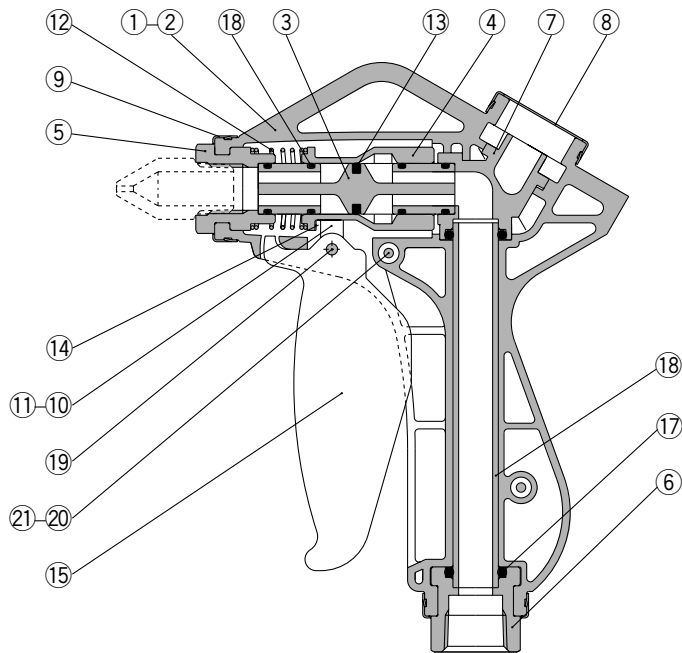
	Piping connection system	Size and part no.	
02	Screw-in type	Port size	1/4
03			3/8
11	With S coupler plug ^{Note1)}	Plug part no.	KK4P-02MS

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

Construction



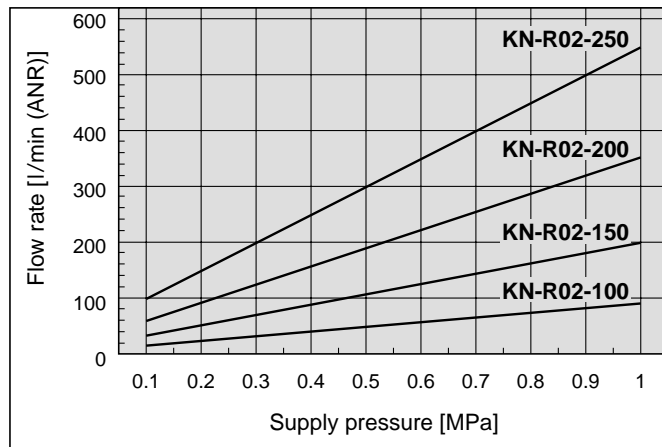
Parts list

No.	Description	Material	Note
1	Body L	PBT	
2	Body R	PBT	
3	Main valve	PBT	
4	Valve guide	Aluminium alloy	Chromate
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	

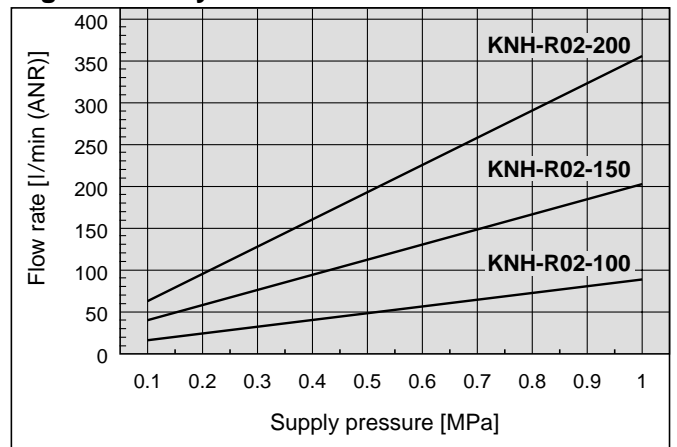
Flow Characteristics

Note) Values when the main valve is fully open.

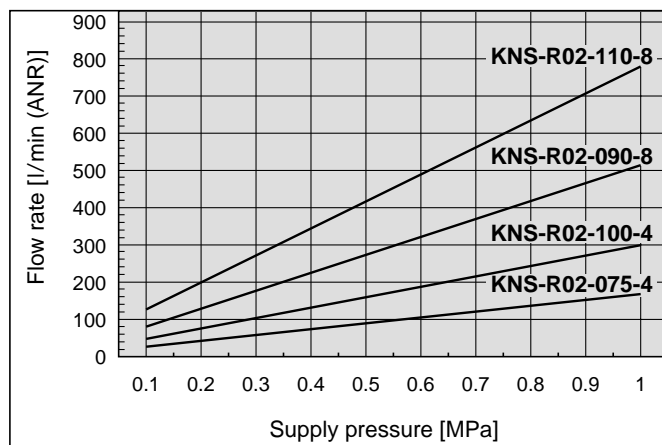
Male thread nozzle



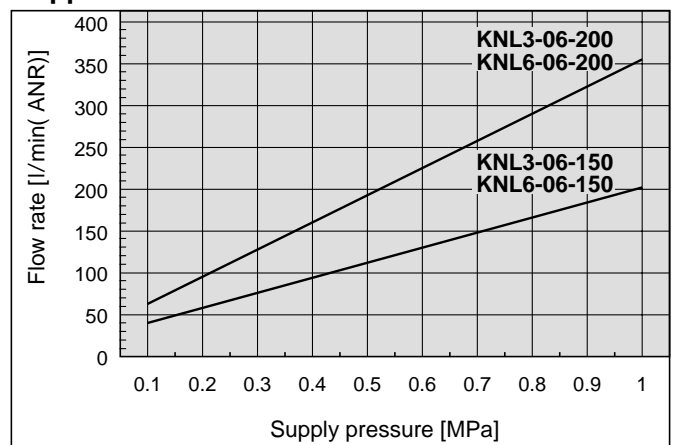
High efficiency nozzle



Low noise nozzle with male thread



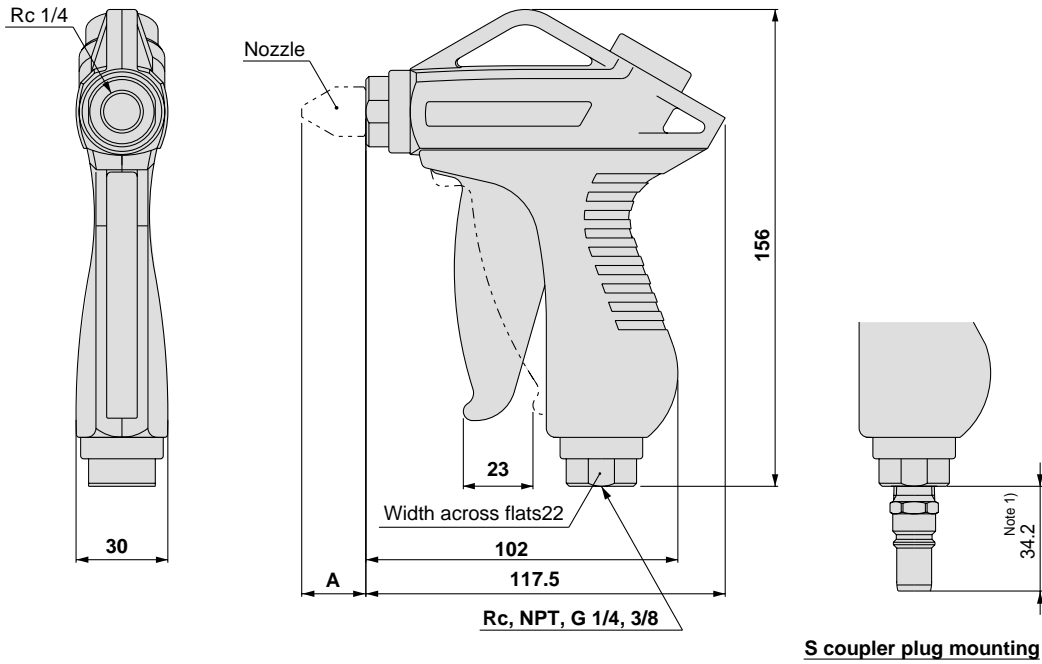
Copper extension nozzle



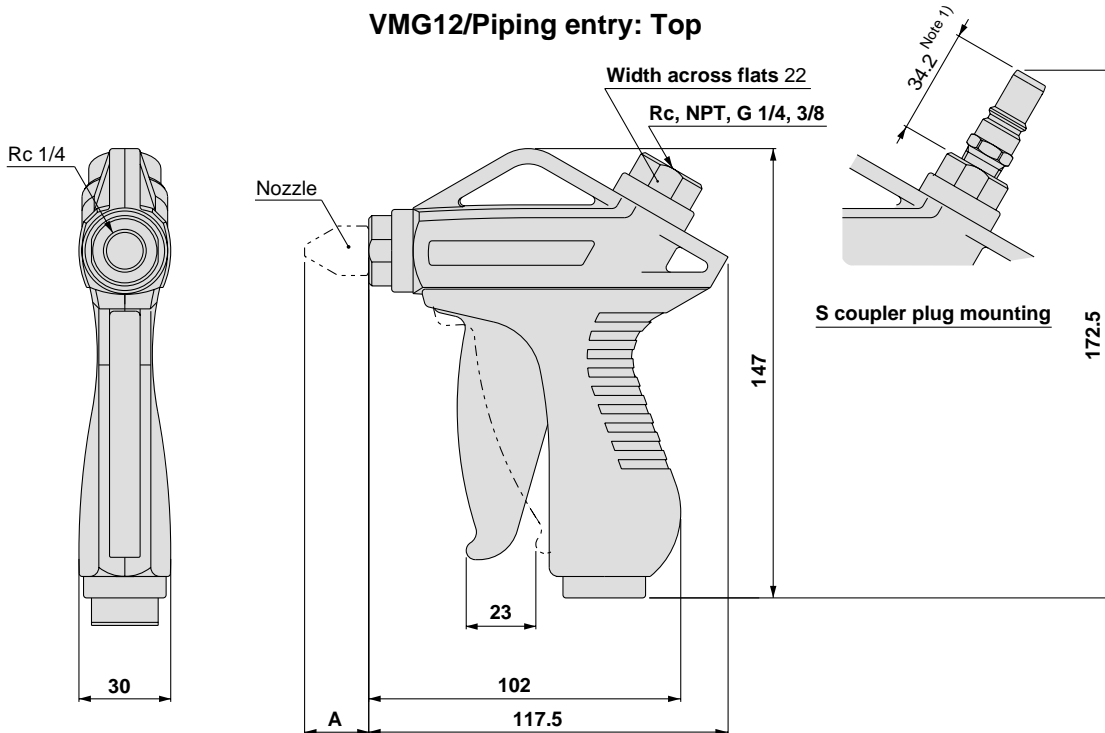
Series VMG

Dimensions

VMG11/Piping entry: Bottom



VMG12/Piping entry: Top



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

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

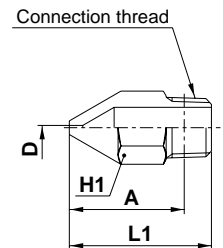
Dimensions: Nozzle/Series KN

Male thread nozzle/KN



Model	Nozzle size D	Connection thread	Width across flats	L₁	A
			H₁		
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

(mm)

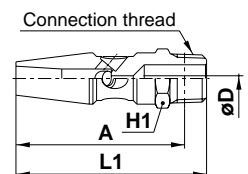


High efficiency nozzle/KNH



Model	Nozzle size D	Connection thread	Width across flats	L₁	A
			H₁		
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

(mm)

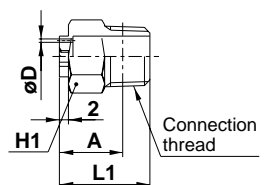


Low noise nozzle with male thread/KNS



Model	Nozzle size D	Connection thread	Width across flats	L₁	A
			H₁		
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

(mm)

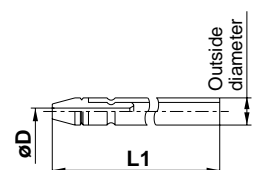


Copper extension nozzle/KNL



Model	Nozzle size D	Outside diameter	L₁
	D		
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

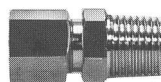
(mm)



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)

Half union
H06-02



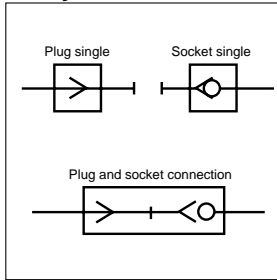
Related
equipment

S Coupler Series *KK*

Large effective area
Light weight



JIS symbol



Specifications

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

Efficiency

Plug socket connection method	One-tough installation and removal
Check valve	Socket: Built-in check valve (standard)
Sleeve lock mechanism	Manual locking type (standard)

Effective area

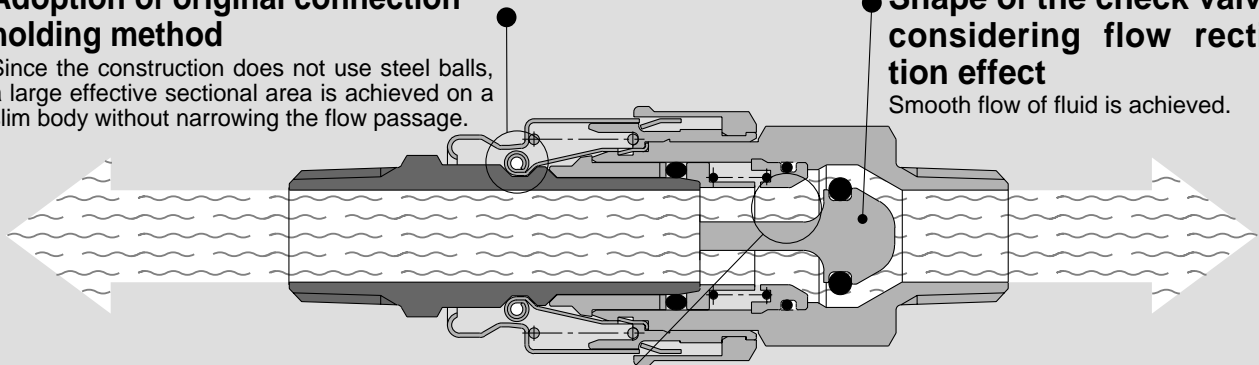
Body size	Plug	Socket	Effective area mm ²
1/4	KK4P-02MS	KK4S-02MS	39

Adoption of original connection holding method

Since the construction does not use steel balls, a large effective sectional area is achieved on a slim body without narrowing the flow passage.

Shape of the check valve tip considering flow rectification effect

Smooth flow of fluid is achieved.



Construction without a spring installed in the flow passage

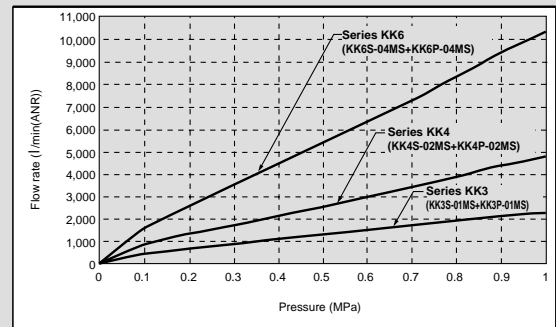
Because the flow passage is not blocked by a valve spring, the effective sectional area is used more efficiently.

Light weight

The weight is minimized by adoption of stamped parts and resin parts as well as miniaturization of the body.


PAT.

Flow characteristics




Plug (P)

Male thread type


	Body size	Port size	Model
	1/4	R 1/4	KK4P-02MS

Socket (S)


Male thread type

	Body size	Port size	Model
	1/4	R 1/4	KK4S-02MS
		R 3/8	-03MS
		R 1/2	-04MS


Female thread type

	Body size	Port size	Model
	1/4	Rc 1/4	KK4S-02F
		Rc 3/8	-03F


Type with nut fitting (for polyurethane hose containing cloth)

	Body size	Applicable hose bore size/O.D. mm	Model
	1/4	8/12	KK4S-80N
		8.5/12.5	-85N

Straight union type with one-touch fitting

	Body size	Applicable tube O.D. mm	Model
	1/4	10	KK4S-10H
		12	-12H

Elbow type with one-touch fitting

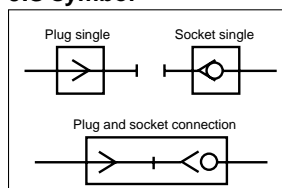
	Body size	Applicable tube O.D. mm	Model
	1/4	10	KK4S-10L
		12	-12L

S Coupler Series *KKH*

Adoption of a rubber cover and high impact PBT resin to absorb drop impact (equivalent to impact energy of 0.5J) on the external surface of the body. Flow rate is equivalent to that of the conventional series (Series KK).



JIS symbol



Specifications

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

Efficiency

Plug socket connection method	One-tough installation and removal
Check valve	Socket: Built-in check valve
Sleeve lock mechanism	None

Effective area

Body size	Plug	Socket	Effective area mm ²
1/4	KK4P-02MS	KKH4S-02MS	39

The flow rate is same as that of the current standard product due to use of common internal parts.

Socket (S)

Male thread type

Image	Body size	Port size	Model
	1/4	R 1/4	KKH4S-02MS
		R 3/8	-03MS
		R 1/2	-04MS

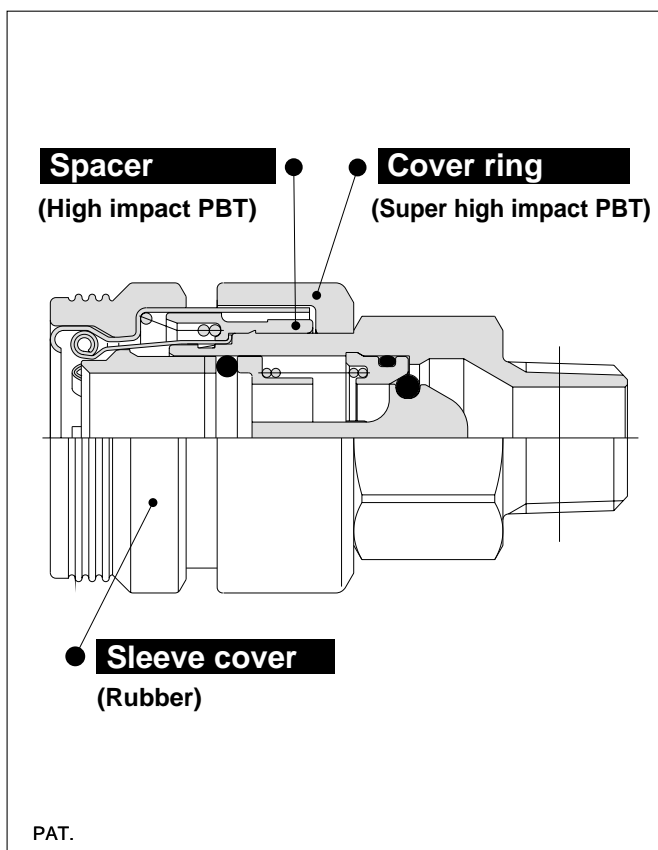
Female thread type

Image	Body size	Port size	Model
	1/4	R 1/4	KKH4S-02F
		R 3/8	-03F

Type with nut fitting (for polyurethane hose containing cloth)

Image	Body size	Applicable hose bore size/O.D. mm	Model
	1/4	8/12	KKH4S-80N
		8.5/12.5	-85N

Only sockets are available as Series KKH.
Use plugs in Series KK.



Regulator AR30 to 60

How to Order



AR30

AR 30 F 03 BE 1N

Regulator

Body size

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

Thread type

Nil	Metric thread (M5)
	Rc
N	NPT
F	G

Port size

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

Optional specifications

Symbol	Contents	Applicable models
1 Note 1)	0.02 to 0.2MPa setting	AR30 to 60
N	Non-relieving	AR30 to 60
R	Flow direction: Right to left	AR30 to 60
Z Note 2)	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 1) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2MPa or more.

Note 2) 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.)

Option

Symbol	Contents	Applicable models
Nil	—	—
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 pressure gauge (with limit indicator)	AR30 to 60
P	Panel mount (with set nut)	AR30 to 40

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

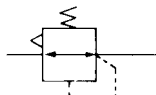
Note 2) Mounting threads pressure gauge: AR30-1/8; AR40 to 60-1/4. Pressure gauge is not mounted at the time of shipment, but rather packaged together with the regulator.

Accessory/ Optional specification combinations

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

Accessory/ Optional specifications	Combination	Symbol	Accessories				Optional specifications				Applicable regulators
			B	E	G	P	1	N	R	Z	
Accessories	With bracket (with set nut)	B	■	○	◎	■	◎	◎	◎	△	◎
	Square embedded type pressure gauge	E	◎	■	■	◎	◎	◎	△	◎	
	Round pressure gauge	G	◎	■	■	◎	◎	◎	△	◎	
	Panel mount (with set nut)	P	■	○	◎	■	◎	◎	△	○	
Optional specifications	0.02 to 0.2MPa setting	-1	◎	○	◎	◎	■	◎	◎	△	◎
	Non-relieving type	-N	◎	○	◎	◎	◎	■	◎	△	◎
	Flow direction: Right to left	-R	◎	○	◎	◎	◎	◎	■	△	◎
	Display units for product name plate and pressure gauge: PSI, °F.	-Z	△	△	△	△	△	△	△	■	△

JIS symbol



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	1.5MPa				
Maximum operating pressure	1.0MPa				
Regulating pressure range	0.05 to 0.85MPa				
Gauge port size Note 1)	1/8	1/4	1/4	1/4	1/4
Relief pressure	Set pressure + 0.05MPa (at relief flow rate of 0.1/min(ANR))				
Ambient and fluid temperature	-5 to 60°C (With no condensation)				
Construction	Relieving type				1.22
Weight (kg)	0.29	0.44	0.47	1.17	

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

Option/Part no.

Applicable model		AR30	AR40	AR40-06	AR50	AR60	
Option							
Bracket assembly Note 1)		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)	
Pressure gauge Note 2)	1MPa	Round	G36-10-□01	G46-10-□02	G46-10-□02	G46-10-□02	
		Square embedded type Note 3)	GC3-10AS	GC3-10AS	GC3-10AS	GC3-10AS	GC3-10AS
	0.2MPa	Round	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 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 Equipment

Filter Regulator AW30, 40

How to Order

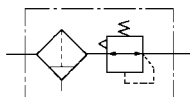
Integration of a filter and regulator allows simple wiring.



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

Optional specifications

Symbol	Contents	Applicable models
1 Note 1)	0.02 to 0.2MPa setting	AW30, 40
2	Metal bowl	AW30, 40
6	Nylon bowl	AW30, 40
8	Metal bowl with level gauge	AW30, 40
J Note 2)	Drain guide 1/4	AW30, 40
N	Non-relieving	AW30, 40
R	Flow direction: Right to left	AW30, 40
W	Drain cock with barb fitting: ø6 x ø4 nylon tube	AW30, 40
Z Note 3)	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 1) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2MPa or more.

Note 2) Without valve function.

Note 3) 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.)

Accessories

Symbol	Contents	Applicable models
Nil	—	—
B Note 1)	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 2)	With round pressure gauge (with limit indicator)	AW30, 40
P	Panel mount (with set nut)	AW30, 40

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

Note 2) Mounting thread for pressure gauge: AW30-1/8; AR40 to 60-1/4.

Pressure gauge is not mounted at the time of shipment, but rather packaged together with the regulator for shipment.

⊙ : Combination available

□ : Combination not available

○ : Varies depending on the model

△ : Available only with NPT thread

Accessory/ Optional specification combinations

Accessory/ Optional specifications	Combination	Symbol	Accessories											Optional specifications							Applicable filter regulator	
			B	C	D	E	G	P	1	2	6	8	C	J	N	R	W	Z	AW30, 40			
Accessories	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	⊙	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	△	○
Optional specifications	0.02 to 0.2MPa 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 to 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	1.5MPa			
Maximum operating pressure	1.0MPa			
Regulating pressure range	0.05 to 0.85MPa			
Pressure gauge port size Note 1)	1/8	1/4	1/4	
Relief pressure	Set pressure + 0.05MPa (at relief flow rate of 0.1/min(ANR))			
Ambient and fluid temperature	-5 to 60°C (With no condensation)			
Nominal filtration rating	5µm			
Drain capacity (cm³)	25	45	45	
Bowl material	Polycarbonate			
Construction	Relieving type			
Weight (kg)	0.40	0.72	0.75	
Optional	Bowl guard	●	●	●

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

Accessory part no.

Applicable model		AW30	AW40	AW40-06	
Accessory					
Bracket assembly Note 1)		AR30P-270AS	AR40P-270AS	AR40P-270AS	
Set nut		AR30P-260S	AR40P-260S	AR40P-260S	
Note 2)	1.0MPa	Round	G36-10-□01	G46-10-□02	G46-10-□02
		Square embedded type Note 3)	GC3-10AS	GC3-10AS	GC3-10AS
	0.2MPa	Round	G36-2-□01	G46-2-□02	G46-2-□02
		Square embedded type Note 3)	GC3-2AS	GC3-2AS	GC3-2AS
Note 4)	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 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-0.1MPa; N.C. type-0.1MPa, AD17, AD27 and 0.15MPa for AD37, AD47. 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 a label 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 – Recommendations for the application of equipment to transmission and control systems.

Note 2) JIS B 8370: General Rules for Pneumatic Equipment

Warning

1. The compatibility of 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 after analysis and/or tests to meet your specific requirements. The expected performance and safety assurance will be 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 incorrectly. 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 after confirmation of safe locked-out control positions.
2. When equipment is to be removed, confirm the safety process as mentioned above. Cut 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 shooting-out of cylinder piston rod, etc. (Bleed air into the system gradually to create back pressure.)

4. Contact SMC if the product is to 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, 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 Common 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.

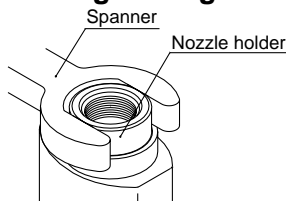
Caution

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 14Nm
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Insufficient tightening may cause loosening of the nozzle.

Piping

Caution

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

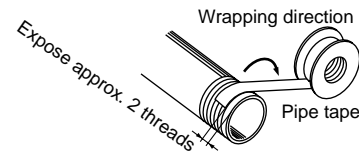
Also make sure that there is no scratches, gouges or cracks on the product.

2. Preparation before piping

Before piping is connected, it should be thoroughly blown out with air (flushing) or washed to remove chips, cutting oil and other debris from inside the pipe.

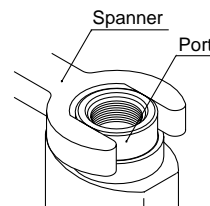
3. Use of sealant tapes

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 pipe tape is used, leave 1.5 to 2 thread ridges exposed at the end of the threads.



4. 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 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.



Series VMG Common Precautions 2

Be sure to read before handling.

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 5µm 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 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 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.**

Information on energy saving systems



Energy saving program (Ver.1.01)

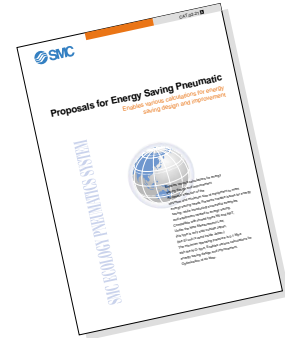
Enables various calculations for energy saving design and improvement.

- Optimisation of air blow
- Pressure reduction in piping
- Cost-energy conversion for compressed air



Equipment selection program Pneumatic cylinder operation system (Ver.1.01)

Automatic selection of the optimum and minimum size of equipment to meet energy saving needs.



Energy saving Proposals for Energy Saving Pneumatic systems (CAT.02-21 A)

Presents notable issues for energy saving, while introducing successful examples and equipment related to energy saving.

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