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Air Preparation Equipment

SMC provides *solutions* for all your Modular and Specialty Air Preparation Equipment requirements.

Our Modular System ensures:

- Cost effective and clean looking solutions, whether in combined assemblies or installed as stand-alone units.
- Energy savings, with higher flow rates and eight size options to ensure optimum performance for every application.
- Cleaner environment with small Micron Filtration as standard to meet every application need.
- Reduced downtime with simple assembly and maintenance.



SMC delivers exceptional customer value either through our dedicated Distributor Network or Direct Sales Force.

- SMC offers customers the highest quality products at a competitive price, supported by a first class nationwide service from the moment you make contact with us.
- Upon request, our Sales Engineers or Distributor representatives will visit to discuss your immediate or future Air Preparation and Pneumatics needs.
- When you are a SMC customer, you will enjoy dedicated support from your local and National SMC Team.

How To Use This Catalog

This Catalog begins with Standard Modular Combination sets followed by Individual Component Sections. Each section provides detailed specifications and descriptions of Options and Accessories. All products utilize similar *How To Order* instructions. A sample *How To Order* has been provided below to familiarize you with our ordering system.

Thank you for choosing SMC Air Preparation Products!

Example: NAW 30 00—N 03 BD—1W

Select Product Series
For example, we chose NAW Series.

Filter/Regulator

Body size

- 10 — M5
- 20 — 1/8
- 30 — 3/8
- 40 — 1/2

Port Thread

- Nil — Rc(PT)
- F — G(PF)
- N — NPT

Port size

- M5 — 10-32 Nom. (M5)
- 01 — 1/8
- 02 — 1/4
- 03 — 3/8
- 04 — 1/2
- 06 — 3/4

Part Number Dashes
When indicating part numbers, the dashes shown separate product segments. Remember to include the dashes when ordering.

Choose Specific Options
The part number areas indicated by a gray box have more than one option available. If an option is not selected, "Nil" will be selected by default.

Optional specifications

- Nil — None
- 1 — 3-30psig (0.02 - 0.2MPa) setting* (except NAW1000)
- 2 — Metal bowl
- 4 — 3-30psig (0.02 - 0.4MPa) setting*
- 6 — Nylon bowl
- 8 — Metal bowl with level gauge (only NAW3000•NAW4000)
- C — With bowl guard (Only NAW2000)
- J — Drain Guide 1/4 Pipe Thread
- N — Non-relieving
- R — IN-OUT reversal
- W — Drain Cock with Barb Fitting for Nylon tube (ø6mm OD/ø4mm ID)

When specifying more than one option, please list numerically, then alphabetically.

*Not a maximum setting. Option 1 is more precise in the range of 3-30 psig. Option 4 is more precise in the range of 3-60 psig.




Accessory

Code	Description	Applicable model	
Nil	—	—	
B	Bracket	NAW1000-NAW4000-N06	
C D	Auto drain	Float type (N.C.)	NAW3000-NAW4000-N06
		Differential Pressure	NAW1000-NAW2000
		Float type (N.O.)	NAW3000-NAW4000-N06
G	Pressure Gauge	NAW1000	
		NAW2000-NAW4000-N06	

Special Instructions

To avoid compatibility conflicts, special instructions or notes may be listed.

These safety instructions are intended to prevent a hazardous situation and/or equipment damage. These instructions indicate the level of potential hazard by using the “**Caution**”, “**Warning**” or “**Danger**” label. To ensure safety, be sure to observe ISO4414¹, JIS B 8370² 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) ISO4414: Pneumatic fluid power-Recommendations for the application of equipment to transmission and control systems.

Note 2) JIS B 8370: Pneumatic system axiom.

Performance Note:

SMC equipment is designed to meet both North American and International Performance Standards. For maximum operating pressure, this value is 150psi or 1.0Mpa unless noted otherwise.

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.

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

Compressed air can be dangerous if an operator is unfamiliar with it. Assembly, handling, or repair of pneumatic systems should be performed by only trained and experienced operators.

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

1. Inspection and maintenance of machinery/equipment should only be performed after confirmation of safe lock-out control positions.
2. When equipment is to be removed, confirm the safety process as mentioned above. Cut the supply pressure for the equipment and exhaust all residual compressed air in the system.
3. Before machinery/equipment is re-started, take measures to prevent shooting-out of the 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 beverage, 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.

Product Selection

 **Warning****① Air Filter Environment**

Standard Filters/Regulators incorporate polycarbonate bowls and/or observation windows. Do NOT use filters in an environment that will expose the above components to synthetic fluids, organic solvents, chemicals, cutting lubricants, thread lock solutions or similar materials.

② Regulator

a) Safety devices shall be placed to prevent secondary (output) pressure from rising past the set pressure. This will ensure that damage to the components on the secondary side will be minimized in the event of a malfunction.

b) Residual pressure will remain on secondary side of regulators when supply is removed. This condition will enable equipment to operate unless system is designed to relieve (exhaust) this pressure; i.e. designer should add components that will exhaust secondary side when supply is removed.

c) Regulator operation may be affected when used in Balanced or Secondary sealed circuits. Please consult SMC regarding these applications.

③ Lubricators

For proper lubricator function, airflow must meet or exceed its minimum flow rate.

④ Drains

For proper Auto Drain operation, the following should be considered:

a) FLOAT TYPE AUTO DRAIN (N.O.)

1. Operating pressure must be greater than 0.1 MPa
2. Compressor capacity is greater than 0.75kw [100 l/m (ANR)]

b) FLOAT TYPE AUTO DRAIN (N.C.)

1. Operating pressure must be greater than 0.15 MPa
2. Compressor capacity may be less than 0.75kw [100 l/m (ANR)]

c) DIFFERENTIAL PRESSURE TYPE AUTO DRAIN

1. Operating pressure must be greater than 0.1 MPa

Product Installation

 **Caution****① Filters/Lubricators**

- a) INSTALL FILTERS AND LUBRICATORS WITH BOWLS IN DOWNWARD DIRECTION — Improper orientation may cause drain malfunctions and make it difficult to check lubricator drip rate.
- b) VERIFY FLOW DIRECTION BEFORE MAKING CONNECTIONS — Reversing connections will cause improper operation.
- c) INSTALL AUTO DRAIN PIPING CORRECTLY —
 1. ALL TYPES
 - (1) Piping slope shall always fall away from drain without low spots
 - (2) Drain hose length shall not exceed 5m
 2. FLOAT TYPE AUTO DRAIN (N.O.)
 - (1) Drain hose inner diameter shall be 6.5mm or greater
 3. FLOAT TYPE AUTO DRAIN (N.C.)
 - (1) Drain hose inner diameter shall be 4mm or greater
 4. DIFFERENTIAL PRESSURE TYPE AUTO DRAIN
 - (1) Drain hose inner diameter shall be 2.5mm or greater
 - (2) Drain hose material shall be soft nylon
- d) AIR SUPPLY — If excessive filter drainage occurs — Install air dryer and water separator before air filter.

Warning

2 Regulators

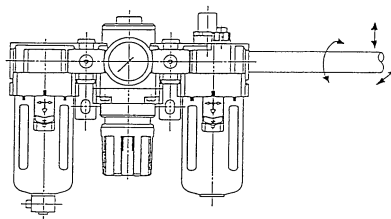
- a) ADJUST PRESSURE SETTINGS — Start adjustment from lower than desired pressure level, increase pressure until desired pressure is reached, lock handle to fix setting.
- b) PRESSURE STABILITY— Set the secondary pressure of regulator within 85% of nominal supply pressure. This will ensure secondary pressure stability despite nominal supply side pressure variations; e.g. sudden pressure drops.

3 Input/Output Piping — All Components

- a) Always tighten within recommended torque limits (see table). Insufficient or excessive fastening torque may result in leaks and/or damage to threads.

Recommended proper torque							N•m
Connecting thread	M5	1/8	1/4	3/8	1/2	3/4	1
Torque	1.5 to 2	7 to 9	12 to 14	22 to 24	28 to 30	28 to 30	36 to 38

- b) Always retain female side closest to connection when tightening pipe/fittings to avoid damage to modular connection brackets.
- c) F.R.L. components must be isolated from external twist and/or bend moments (See diagram). Proper support of rigid input/output lines must be provided if flexible lines are not used.



Warning

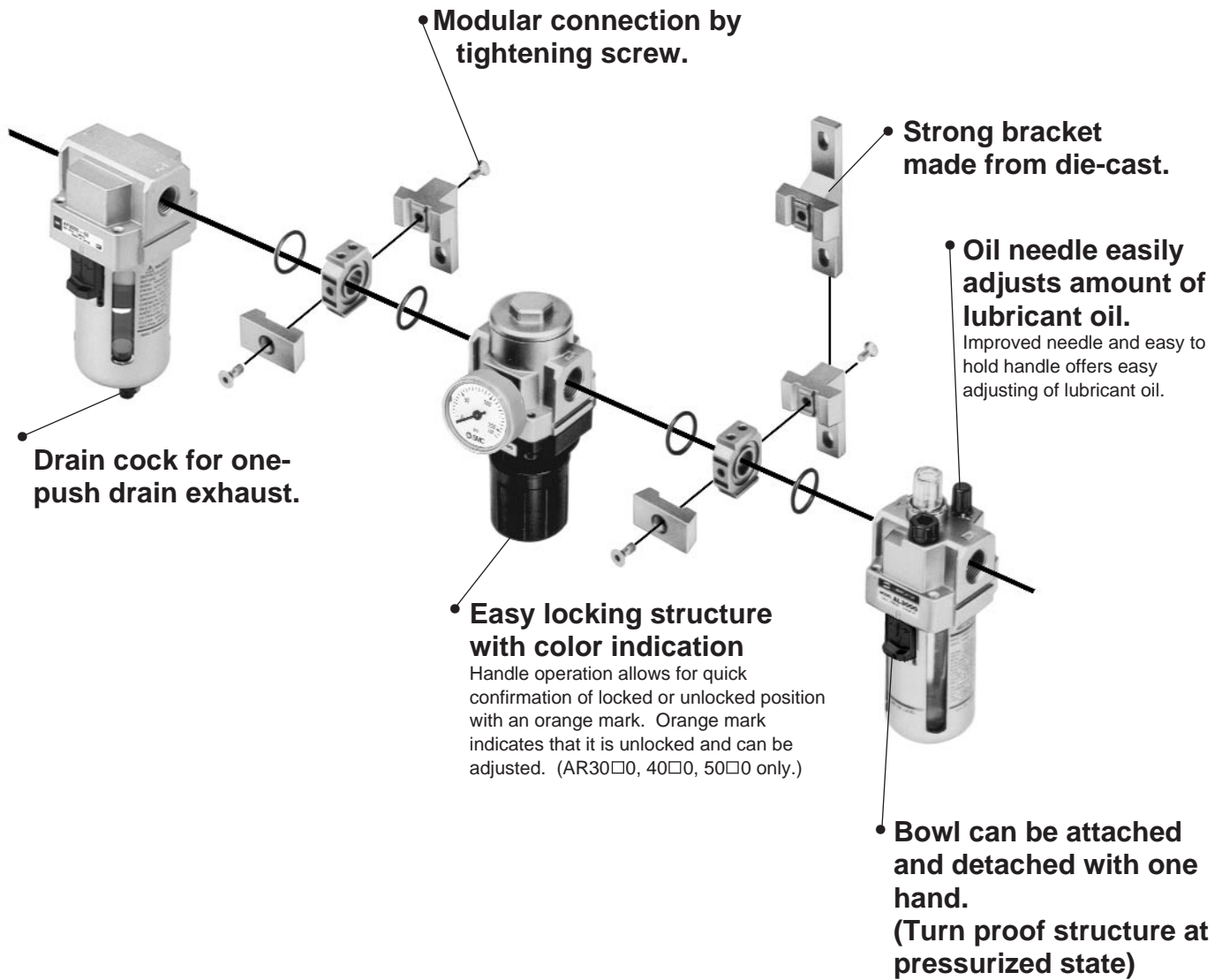
1. All clear materials should be examined regularly for scratches, cracks, or degradation; e.g. polycarbonate bowls or drip observation windows.
2. Dirt must not be allowed to accumulate on or in filters, bowls, or observation windows.
 - a) Clean with common household detergent.
 - b) Replace bowl if dirt near drain cannot be removed (May obstruct drain)
3. Liquid in bowl must not exceed maximum levels. Failure to purge liquids via drain, may result in liquids entering secondary side. This may cause equipment damage.
 - a) Float type drains may be manually drained by turning handle counter-clockwise.
 - b) Differential type drains may be manually drained by pushing the drain guide in an upward motion.
4. Only use turbine class 1 lubrication oil (W/O additive) ISO VG32 in lubricators.

Modular Air Combination Units

NAC1000 ~ 6000 series	12-16
Filter + Regulator + Lubricator	
NAC1010 ~ 4010 series	17-18
Filter/Regulator + Lubricator	
NAC1020 ~ 6020 series	19-21
Filter + Regulator	
NAC2030 ~ 4030 series	22-23
Filter + Mist Separator + Regulator	
NAC2040 ~ 4040	24-25
Filter/Regulator + Mist Separator	

Modular Air Combination Units






Filter+Regulator+Lubricator



Standard Combinations

Modular Air Combination Units

Standard combinations only — other combinations of Modular units are possible.

Model/Series	Port size	Filter NAF	Regulator NAR	Lubricator NAL	Filter Regulator	Mist Separator
	NAC1000	10-32 Nom. (M5)	NAF1000	NAR1000	NAL1000	
	NAC2000	1/8 • 1/4	NAF2000	NAR2000	NAL2000	
	NAC2500	1/4 • 3/8	NAF3000	NAR2500	NAL3000	
	NAC3000	1/4 • 3/8	NAF3000	NAR3000	NAL3000	
	NAC4000	1/4 • 3/8 • 1/2	NAF4000	NAR4000	NAL4000	
	NAC4000-N06	3/4	NAF4000-N06	NAR4000-N06	NAL4000-N06	
	NAC5000	3/4 • 1	NAF5000	NAR5000	NAL5000	
	NAC5500	1	NAF6000	NAR5000	NAL6000	
	NAC6000	1	NAF6000	NAR6000	NAL6000	
	NAC1010	10-32 Nom. (M5)			NAL1000	NAW1000
	NAC2010	1/8 • 1/4			NAL2000	NAW2000
	NAC3010	1/4 • 3/8			NAL3000	NAW3000
	NAC4010	1/4 • 3/8 • 1/2			NAL4000	NAW4000
	NAC4000-N06	3/4			NAL4000-N06	NAW4000-N06
	NAC1020	10-32 Nom. (M5)	NAF1000	NAR1000		
	NAC2020	1/8 • 1/4	NAF2000	NAR2000		
	NAC2520	1/4 • 3/8	NAF3000	NAR2500		
	NAC3020	1/4 • 3/8	NAF3000	NAR3000		
	NAC4020	1/4 • 3/8 • 1/2	NAF4000	NAR4000		
	NAC4020-N06	3/4	NAF4000-N06	NAR4000-N06		
	NAC5020	3/4 • 1	NAF5000	NAR5000		
	NAC5520	1	NAF6000	NAR5000		
	NAC6020	1	NAF6000	NAR6000		
	NAC2030	10-32 Nom. (M5)	NAF2000	NAR2000		NAFM2000
	NAC2530	1/8 • 1/4	NAF3000	NAR2500		NAFM3000
	NAC3030	1/4 • 3/8	NAF3000	NAR3000		NAFM3000
	NAC4030	1/4 • 3/8 • 1/2	NAF4000	NAR4000		NAFM4000
	NAC4030-N06	3/4	NAF4000-N06	NAR4000-N06		NAFM4000-N06
	NAC2040	1/8 • 1/4			NAW2000	NAFM2000
	NAC3040	1/4 • 3/8			NAW3000	NAFM3000
	NAC4040	1/4 • 3/8 • 1/2			NAW4000	NAFM4000
	NAC4040-N06	3/4			NAW4000-N06	NAFM4000-N06

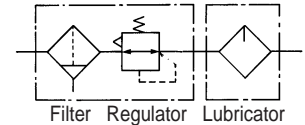
NAC Series

Modular Air Combination Units

Filter+Regulator+Lubricator

NAC1000, 2000, 2500, 3000, 4000, 5000, 5500, 6000

ANSI SYMBOL



NAC4000



NAC3000



NAC2000

Specifications

Model		NAC1000	NAC2000	NAC2500	NAC3000	NAC4000	NAC4000-N06	NAC5000	NAC5500	NAC6000	
Combination	Air filter	NAF1000	NAF2000	NAF3000	NAF3000	NAF4000	NAF4000-06	NAF5000	NAF6000	NAF6000	
	Regulator	NAR1000	NAR2000	NAR2500	NAR3000	NAR4000	NAR4000-06	NAR5000	NAR5000	NAR6000	
	Lubricator	NAL1000	NAL2000	NAL3000	NAL3000	NAL4000	NAL4000-06	NAL5000	NAL6000	NAL6000	
Port Size - NPT		10-32Nom.(M5)	1/8 • 1/4	1/4 • 3/8	1/4 • 3/8	1/4•3/8•1/2	3/4	3/4 • 1	1	1	
Port size for pressure gauge		1/16Rc(PT)	1/8 NPT	1/8 NPT	1/8 NPT	1/4 NPT	1/4 NPT	1/4 NPT	1/4 NPT	1/4 NPT	
Proof pressure psig (MPa)		220 (1.5)									
Max. operating press. psig (MPa)		150 (1.0)									
Regulating range psig (MPa)		7~100 (0.05~0.7)			7~120 (.05 ~ 0.85)						
Max. Flow Rate scfm*		3 (M5)	18 (1/4)	53.5 (3/8)	71 (3/8)	142 (1/2)	160 (3/4)	178 (3/4)	210 (1)	210 (1)	
Ambient and media temperature		23° ~140° F (-5 ~60° C)									
Filtration		5µm									
Recommended oil		Turbine oil ISO VG32									
Bowl material		Polycarbonate									
Construction/Regulator		Relieving style									
Weight lbs.		0.57	1.63	2.35	2.60	4.72	5.45	8.40	8.90	9.60	
Accessories (standard)	Bowl guard	-	•	•	•	•	•	•	•	•	
	Bracket	B110L	B210L	B310L	B310L	B410L	B510L	B610L	B610L	B610L	

* Conditions: Supply pressure - (100psig), Setting pressure - (70psig)

Accessories

Model	Part No.									
	NAC1000	NAC2000	NAC2500	NAC3000	NAC4000	NAC4000-N06	NAC5000	NAC5500	NAC6000	
Combination	Check valve***	—	NAKM2000-□01 □02	NAKM3000-□01 □02	NAKM3000-□01 □02	NAKM4000-□02 □03	—	—	—	—
	Pressure switch	—	NIS1000M-2Y	NIS1000M-3Y	NIS1000M-3Y	NIS1000M-4Y	NIS1000M-5Y	NIS1000M-6Y	NIS1000M-6Y	NIS1000M-6Y
	T-Type spacer***	Y11-M5	Y21-□01 □02	Y31-□01 □02	Y31-□01 □02	Y41-□02 □03	Y51-□02 □03	Y61-□03 □04	Y61-□03 □04	Y61-□03 □04
	Shut-off valve	—	NVHS2000-□01 □02	NVHS3000-□02 □03	NVHS3000-□02 □03	NVHS4000-□02 □03 □04	—	—	—	—
	Lock-out valve	—	NVHS2500-□01 □02	NVHS3500-□02 □03	NVHS3500-□02 □03	NVHS4500-□02 □03 □04	—	NVHS5500-□06 □10	NVHS5500-□06 □10	NVHS5500-□06 □10
Accessories	T-Type bracket	B110T	B210T	B310T	B310T	B410T	B510T	B610T	B610T	B610T
	Spacer	Y10	Y20	Y30	Y30	Y40	Y50	Y60	Y60	Y60
Accessories	Piping adaptor**	E10-M5	E20-□01 □02 □03	E30-□02 □03 □04	E30-□02 □03 □04	E40-□02 □03 □04 □06	E50-□06	□06 □10	□06 □10	□06 □10
	Pressure gauge	G27-P10-R1	K40MP1.0N01M	K40MP1.0N01M	K40MP1.0N01M	K50-MP1.0-N02M	K50-MP1.0-N02M	K50MP1.0N02M	K50MP1.0N02M	K50MP1.0N02M
	Float type auto drain*	N.O. N.C.	— —	NAD43 NAD53	NAD43 NAD53	NAD44 NAD54	NAD44 NAD54	NAD44 NAD54	NAD44 NAD54	NAD44 NAD54
	Differential pressure auto drain	NAD61	NAD62-C	—	—	—	—	—	—	—

*Min. operating pressure: N.O.—(15psig), N.C.—(22psig)

**Port size: M5=M5 X 0.8, □01=1/8, □02=1/4, □03=3/8, □04=1/2, □06=3/4, □10=1

***Standard port size without ().



Country code

- - Asia, Australia, Japan
- N - North America
- E - Europe

Air Combination

Body size

10 — M5	30 — 3/8	55 — 1
20 — 1/8	40 — 1/2	60 — 1
25 — 1/4	50 — 3/4	

Components

Code	Air Filter (NAF)	Regulator (NAR)	Lubricator (NAL)	Filter Regulator (NAW)	Mist Separator (NAFM)
00	①	②	③	—	—
10	—	—	②	①	—
20	①	②	—	—	—
30	①	③	—	—	②
40	—	—	—	①	②

Note: Order of assembly

Example

- 00—NAF+NAR+NAL
- 10—NAW+NAL (Only NAC1000-NAC4000)
- 20—NAF+NAR
- 30—NAF+NAFM+NAR (Only NAC2000-NAC4000)
- 40—NAW+NAFM (Only NAC2000-NAC4000)

Port thread

- Nil — Rc(PT)
- F — G(PF)
- N — NPT

Port size

M5 — 10-32 Nom. (M5)	04 — 1/2
01 — 1/8	06 — 3/4
02 — 1/4	10 — 1
03 — 3/8	

Accessory

Code	Description	Applicable model
C	Auto drain	Float type(N.C.):NAC2500-NAC6000
D	Auto drain	Differential pressure:NAC1000,NAC2000 Float type: (N.O.): NAC2500-NAC6000
G	Pressure gauge	NAC1000-6000

Optional specifications

- Nil — None
- 1 — 0.02-0.2MPa (3-30 Psig)Setting (Regulator)*
- 2 — Metal bowl (Filter•Lubricator)
- 3 — Lubricator with drain cock
- 4 — 0.02-0.4MPa (3-60 Psig) Setting (Regulator)
- 6 — Nylon bowl (Filter•Lubricator)
- 8 — Metal bowl with level gauge (Filter•Lubricator) (NAC3000-NAC6000)
- C — With bowl guard (Only NAC2000)
- J — Drain guide 1/4 pipe thread (NAC2500-NAC6000)
- N — Non-relieving
- R — IN-OUT reversal (Right → Left)
- W — Drain cock w/barb fitting for nylon tube (ø6mm OD/ø4mm ID)
- X — "L" Brackets instead of "T" or "T" instead of "L"

Note: When specifying more than one option, please list numerically then, alphabetically. **Example:** 2NR

*Not a maximum setting. Option 1 is more precise in the range of 3-30 psig. Option 4 is more precise in the range of 3-60 psig.

Attachment

Code	Description	Location	Applicable model	Air entry port size
Nil	—	—	—	—
K	Check valve	NAF+NAR+ (K) +NAL NAW+ (K) +NAL	NAC2000-NAC4000 NAC2010-NAC4010	NAC2000:1/8 NAC2500:1/4 NAC3000:1/4 NAC4000:3/8
S	Pressure Switch	NAF+NAR+ (S) +NAL NAF+ (S) +NAR NAF+NAFM+ (S) +NAR	NAC2000-NAC6000 NAC2020-NAC6020 NAC2030-NAC4030	—
T	T-Type Spacer	NAF+ (T) +NAR+NAL NAF+ (T) +NAR NAF+NAFM+ (T) +NAR	NAC1000-NAC6000 NAC1020-NAC6020 NAC2030-NAC4030	NAC1000:10-32 Nom NAC2000:1/8 NAC2500:1/4 NAC3000:1/4 NAC4000:3/8 NAC5000:3/8 NAC6000:1/2
V	3-Port relieving shut-off valve	NAF+NAR+NAL+ (V) NAW+NAL+ (V) NAF+NAR+ (V) NAF+NAFM+NAR+ (V) NAW+NAFM+ (V)	NAC2000-NAC4000 NAC2010-NAC4010 NAC2020-NAC4020 NAC2030-NAC4030 NAC2040-NAC4040	—
LV	Locking 3-Port relieving shut-off valve	(LV) +NAF+NAR+NAL (LV) +NAW+NAL (LV) +NAF+NAR (LV) +NAF+NAFM+NAR (LV) +NAW+NAFM	NAC2000-NAC6000 NAC2010-NAC4010 NAC2020-NAC6020 NAC2030-NAC4030 NAC2040-NAC4040	—

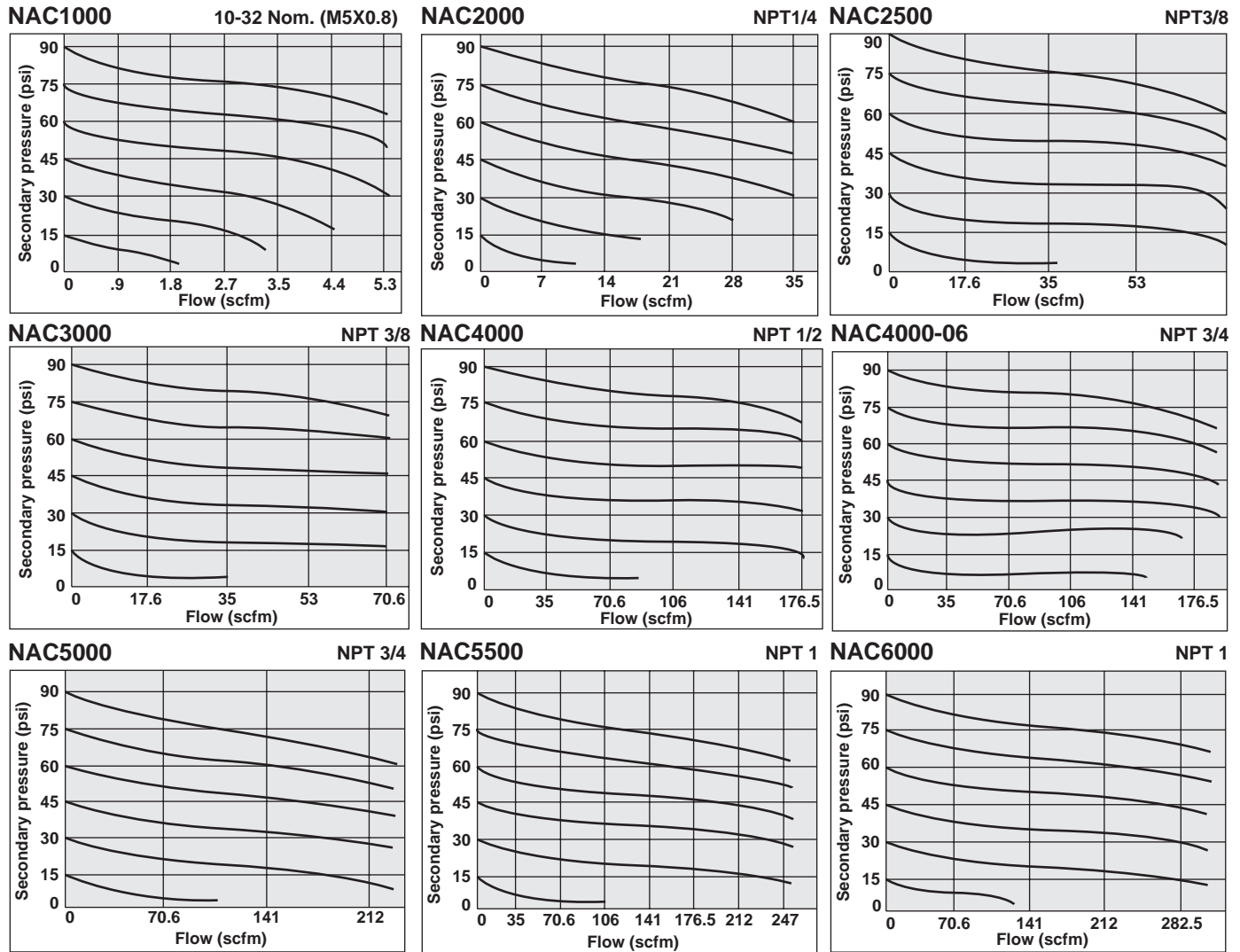
Note (1) Specify alphabetically when having two codes or more.

Filter+Regulator+Lubricator

NAC1000, 2000, 2500, 3000, 4000, 5000, 5500, 6000

Flow Characteristics

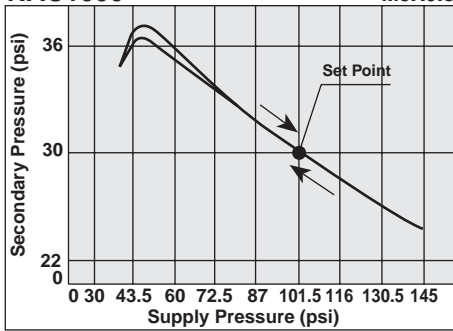
Supply Pressure - 100 psi (0.7 MPa)



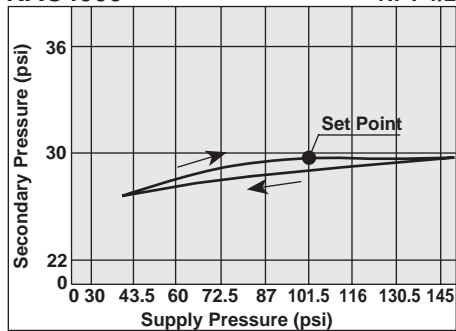
Pressure Characteristics

Supply Pressure - 100 psi (0.7 MPa) • Secondary Pressure - 30 psi (0.2 MPa) • Flow - 0.7SCFM (20/min)

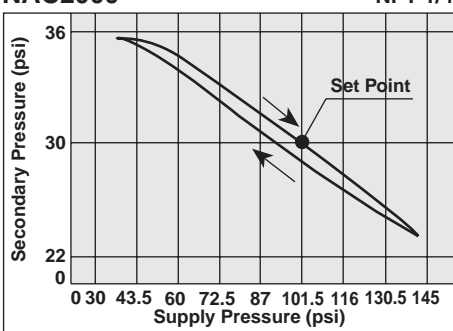
NAC1000 M5X0.8



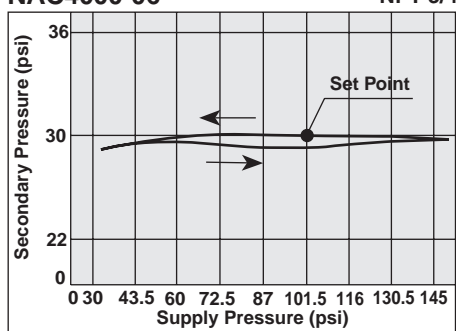
NAC4000 NPT 1/2



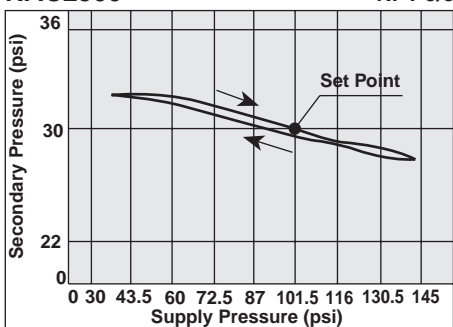
NAC2000 NPT 1/4



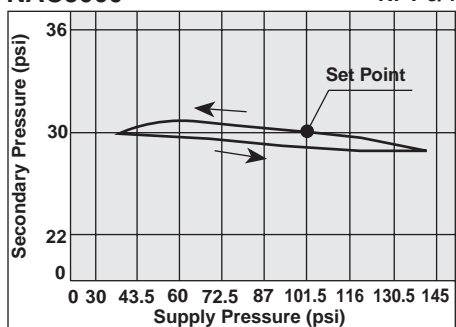
NAC4000-06 NPT 3/4



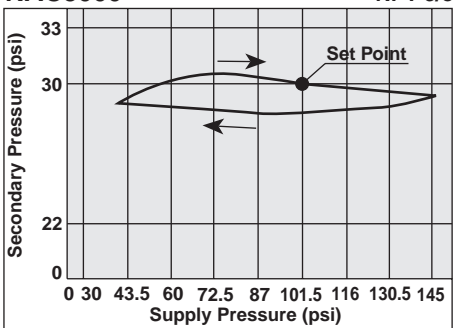
NAC2500 NPT 3/8



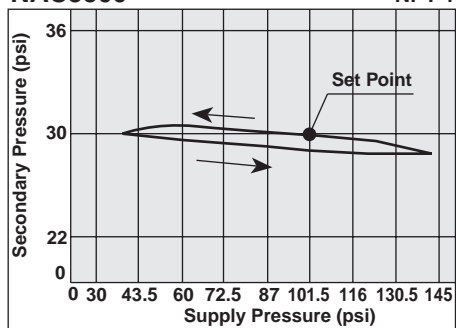
NAC5000 NPT 3/4



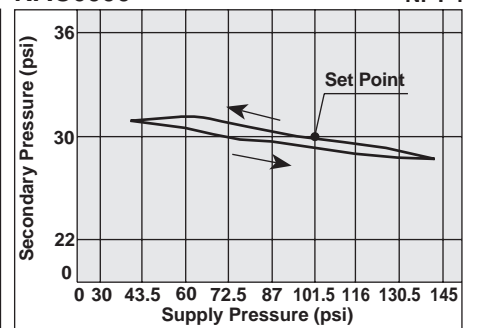
NAC3000 NPT 3/8



NAC5500 NPT 1



NAC6000 NPT 1



Precautions

Read carefully before handling. Refer to the safety instructions and precautions section for the products mentioned in this catalog.

Selection

- ❶ For NAC3030, 4030, NAC3040, 4040 with float type auto drain (N.O.), use 2.2kW {200 /min. (ANR)} or larger compressor. Because two auto drains are used and 200 /min air is needed, it might cause a malfunction with a compressor weaker than the required ability.

Installation

- ❶ Flush piping before installation.
- ❷ Use of piping adapters will ease installation.
- ❸ The regulator may be installed with the adjustment knob up or down. If using the pressure switch (IS1000M) and/or the T-type spacer, the regulator knob must face down.
- ❹ The NAKM check valve is designed to be used between the regulator and the lubricator when it is necessary to prevent the possibility of lubricant flowing back into a non-lubricated secondary supply line.
- ❺ When mounting residual pressure release 3-port valve upstream of a lubricator, use check valve (series NAKM) to prevent reverse flow of oil.
- ❻ Pressure switch and T-type interface cannot be mounted to OUT side of residual pressure release 3-port valve.

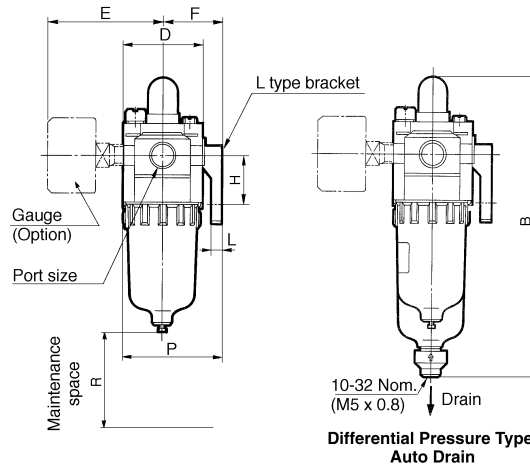
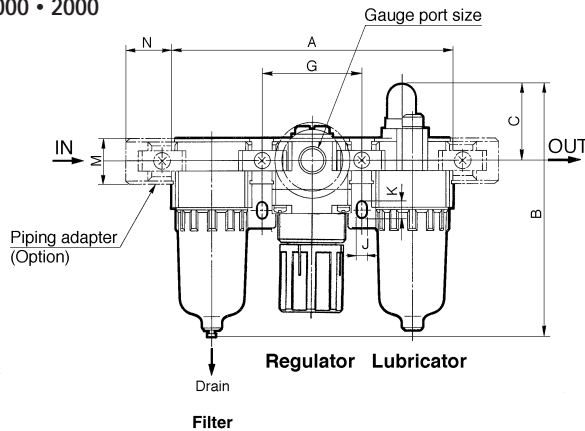
Piping

Warning: When mounting check valve, make sure of the position of the \triangleright mark which indicates air flow direction.

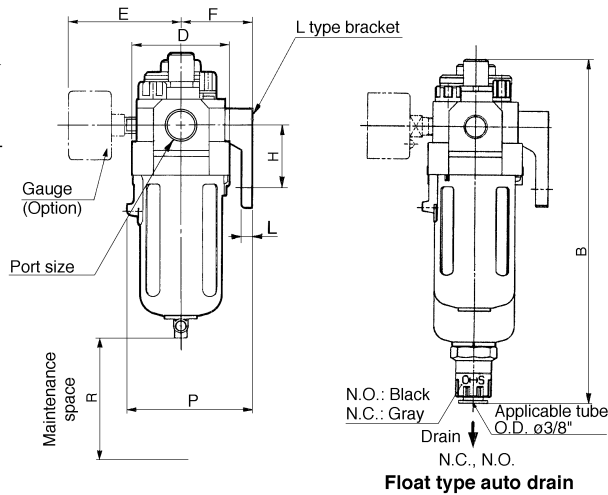
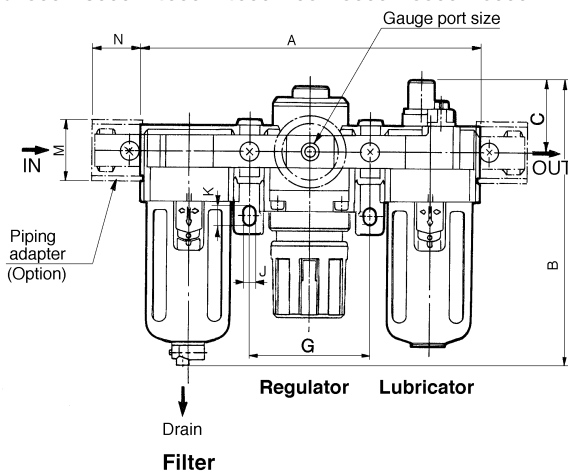
Dimensions

NAC1000, 2000, 2500, 3000, 4000, 5000, 5500, 6000

NAC1000 • 2000



NAC2500 • 3000 • 4000 • 4000-N06 • 5000 • 5500 • 6000



Type	Port size	A	B	C	D	Bracket mounting size						M	N	P	R	With auto drain		
						E	F	G	H	J	K					L	Float type	Differential pressure
NAC1000	M5 X 0.8	3.58 (91)	3.33 (84.5)	1.00 (25.5)	.98 (25)	1.02 (26)	.98 (25)	1.30 (33)	.79 (20)	.18 (4.5)	.30 (7.5)	.20 (5)	.69 (17.5)	.63 (16)	1.52 (38.5)	1.97 (50)	—	4.13 (105)
NAC2000	1/8, 1/4	5.51 (140)	4.90 (124.5)	1.50 (38)	1.57 (40)	2.28 (58)	1.18 (30)	1.97 (50)	.94 (24)	.22 (5.5)	.33 (8.5)	.20 (5)	.87 (22)	.91 (23)	1.97 (50)	3.15 (80)	—	5.81 (147.5)
NAC2500	1/4, 3/8	7.13 (181)	6.02 (153)	1.50 (38)	2.09 (53)	2.44 (62)	1.61 (41)	2.52 (64)	1.38 (35)	.28 (7)	.43 (11)	.28 (7)	1.35 (34.2)	1.02 (26)*	2.78 (70.5)	3.15 (80)	7.64 (194)	—
NAC3000	1/4, 3/8	7.13 (181)	6.02 (153)	1.50 (38)	2.09 (53)	2.44 (62)	1.61 (41)	2.52 (64)	1.38 (35)	.28 (7)	.43 (11)	.28 (7)	1.35 (34.2)	1.02 (26)*	2.78 (70.5)	3.15 (80)	7.64 (194)	—
NAC4000	1/4, 3/8, 1/2	9.37 (238)	7.40 (188)	1.61 (41)	2.76 (70)	2.76 (70)	1.97 (50)	3.31 (84)	1.57 (40)	.35 (9)	.51 (13)	.28 (7)	1.66 (42.2)	1.30 (33)*	3.46 (88)	4.13 (105)	9.02 (229)	—
NAC4000-06	3/4	9.96 (253)	7.46 (189.5)	1.59 (40.5)	2.76 (70)	2.91 (74)	1.97 (50)	3.50 (89)	1.57 (40)	.35 (9)	.51 (13)	.28 (7)	1.82 (46.2)	1.42 (36)	3.46 (88)	4.13 (105)	9.07 (230.5)	—
NAC5000	3/4, 1	11.81 (300)	10.55 (268)	1.89 (48)	3.54 (90)	3.15 (80)	2.76 (70)	4.13 (105)	1.97 (50)	.47 (12)	.63 (16)	.39 (10)	2.17 (55.2)	1.57 (40)	4.25 (108)	4.13 (105)	12.19 (309.5)	—
NAC5500	1	12.20 (310)	11.10 (282)	1.89 (48)	3.74 (95)	3.15 (80)	2.76 (70)	4.13 (105)	1.97 (50)	.47 (12)	.63 (16)	.39 (10)	2.17 (55.2)	1.57 (40)	4.25 (108)	4.13 (105)	12.74 (323.5)	—
NAC6000	1	12.40 (315)	11.10 (282)	1.89 (48)	3.74 (95)	3.25 (82.5)	2.76 (70)	4.33 (110)	1.97 (50)	.47 (12)	.63 (16)	.39 (10)	2.17 (55.2)	1.57 (40)	4.25 (108)	4.13 (105)	12.74 (323.5)	—

Option**

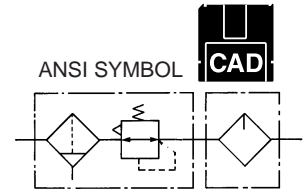
Type	Barb Fitting B	With drain guide B	Metal bowl B	Metal bowl with level gauge
NAC1000	—	—	3.33 (84.5)	—
NAC2000	—	—	4.92 (125)	—
NAC2500	6.36 (161.5)	6.26 (159)	6.54 (166)	7.32 (186)
NAC3000	6.36 (161.5)	6.26 (159)	6.54 (166)	7.32 (186)
NAC4000	7.74 (196.5)	7.67 (194)	7.91 (201)	8.70 (221)
NAC4000-06	7.8 (198)	7.7 (195.5)	7.97 (202.5)	8.76 (222.5)
NAC5000	10.89 (276.5)	10.79 (274)	11.06 (281)	11.85 (301)
NAC5500	11.44 (290.5)	11.34 (288)	11.61 (295)	12.4 (315)
NAC6000	11.44 (290.5)	11.34 (288)	11.61 (295)	12.4 (315)

* For piping adapter NAC2500/3500, port size 1/2: 1.57 (40)
For NAC4000, port size 3/4: 1.97 (50)

** For option (with barb fitting, with drain guide, metal bowl, with level gauge), body length (B dimension) is different.



NAC1000 ——— SAC1000, #1 + #2 + #3 + #13
 NAC2000 ——— SAC2000, #1 + #2 + #3 + #13
 NAC2500, 3000 ——— SAC2503, #1 + #2 + #3 + #13
 NAC4000 ——— SAC4000, #1 + #2 + #3 + #13
 NAC4000-06 ——— SAC4006, #1 + #2 + #3 + #13
 NAC5000 ——— SAC5000, #1 + #2 + #3 + #13
 NAC6000 ——— SAC6000, #1 + #2 + #3 + #13



Specifications (for "How To Order" see page 13)

Model		NAC1010	NAC2010	NAC3010	NAC4010	NAC4010-N06
Combination	Filter/Regulator	NAW1000	NAW2000	NAW3000	NAW4000	NAW4000-N06
	Lubricator	NAL1000	NAL2000	NAL3000	NAL4000	NAL4000-N06
Port size NPT		10-32 Nom. (M5)	1/8 • 1/4	1/4 • 3/8	1/4 • 3/8 • 1/2	3/4
Port size for pressure gauge		1/16 Rc(PT)	1/8 NPT	1/8 NPT	1/4 NPT	1/4 NPT
Proof pressure psig (MPa)		220 (1.5)				
Max. operating pressure psig (MPa)		150 (1.0)				
Regulating range psig (MPa)		7~100 (0.05 ~ 0.7)	7~120 (0.05 ~ 0.85)			
Max. Flow Rate scfm*		3 (M5)	17.5 (1/4)	60 (3/8)	106 (1/2)	106 (3/4)
Ambient and media temperature		23° ~140° F (-5° ~ 60° C)				
Filtration		5µm				
Recommended oil		Turbine Oil #1 ISO VG32				
Bowl material		Polycarbonate				
Construction of filter/regulator		Relieving style				
Weight lbs.		0.48	1.46	2.16	4.26	4.39
Accessories (standard)	Bowl guard	—	●	●	●	●
	Bracket	B110T	B210T	B310T	B410T	B510T

* Conditions: Supply pressure - (100 psig), Setting pressure - (70 psig).

Attachments/Accessories (Optional)

Type		Part No.					
		NAC1010	NAC2010	NAC3010	NAC4010	NAC4010-N06	
Attachments	Check valve***	—	NAKM2000-□01 □02	NAKM3000-□01 □02	NAKM4000-□02 □03	—	
	Shut-off valve	—	NVHS2000-□01 □02	NVHS3000-□02 □03	NVHS4000-□02 □03 □04	—	
	Lock-out valve	—	NVHS2500-□01 □02	NVHS5500-□02 □03	NVHS4500-□02 □03 □04	—	
Accessories	Spacer	Y10	Y20	Y30	Y40	Y50	
	Piping adaptor**	E10-M5	E20-□01 □02 □03	E30-□02 □03 □04	E40-□03 □04 □06	E50-N06	
	Pressure gauge	G27-P10-R1	K40A-MP1.0-N01M	K40A-MP1.0-N01M	K50A-MP1.0-N02M	K50A-MP1.0-N02M	
	Float type	N.O.	—	—	NAD43	NAD44	NAD44
		N.C.	—	—	NAD53	NAD54	NAD54
Differential pressure auto drain*	NAD61	NAD62-C	—	—	—		

*Min. operating pressure: N.O. — (15psig), N.C. . (22psig)

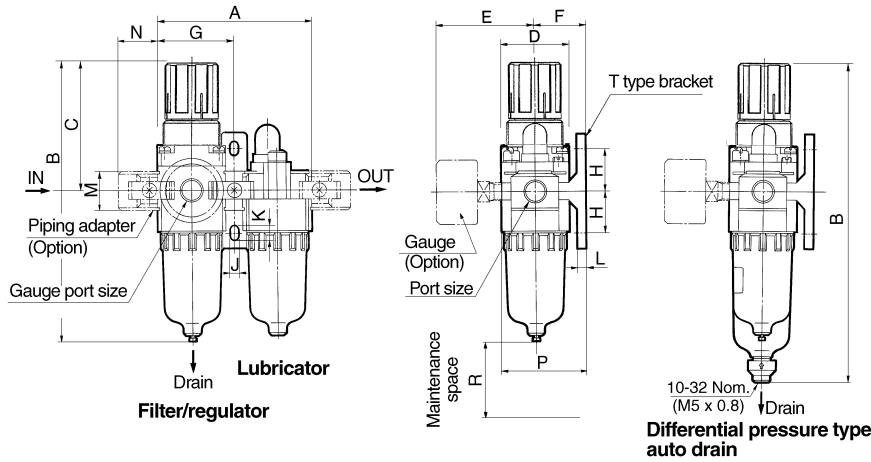
**Port size: M5 = M5 x 0.8, □01 = 1/8, □02 = 1/4, □03 = 3/8, □04 = 1/2, □06 = 3/4

***Standard port size without ()

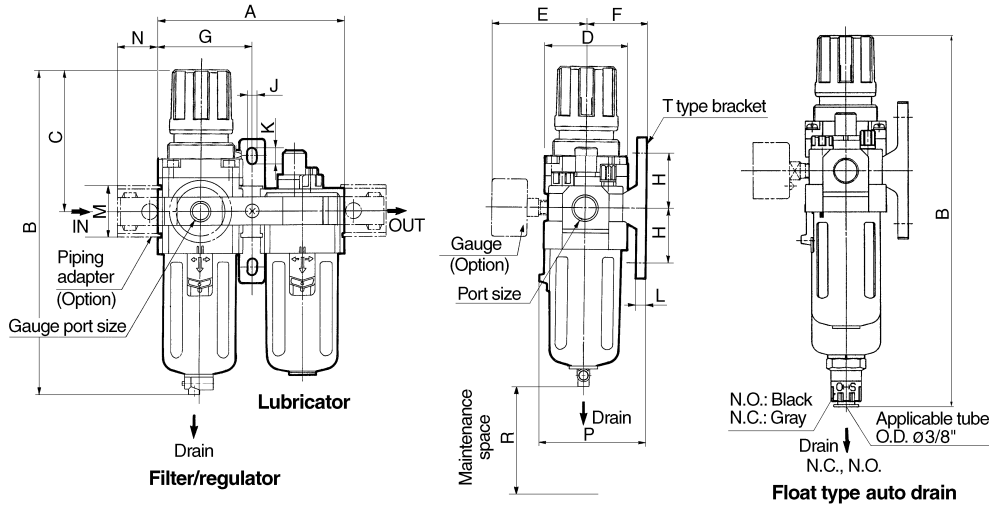
Filter+Regulator+Lubricator
 NAC1010, 2010, 3010, 4010

Dimensions (mm)

NAC1010/NAC2010



NAC3010/4010



Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	Float	Differential pressure
																	B	B
NAC1010	10-32 Nom(M5)	2.28 (58)	4.31 (109.5)	1.99 (50.5)	0.98 (25)	1.02 (26)	0.98 (25)	1.14 (29)	0.79 (20)	0.18 (4.5)	0.30 (7.5)	0.20 (5)	0.69 (17.5)	0.63 (16)	1.52 (38.5)	1.97 (50)	—	5.12 (130)
NAC2010	1/8•1/4	3.54 (90)	6.48 (164.5)	3.07 (78)	1.57 (40)	2.28 (58)	1.18 (30)	1.77 (45)	0.94 (24)	0.22 (5.5)	0.33 (8.5)	0.20 (5)	0.87 (22)	0.91 (23)	1.97 (50)	3.15 (80)	—	7.38 (187.5)
NAC3010	1/4•3/8	4.61 (117)	8.17 (207.5)	3.64 (92.5)	2.09 (53)	2.44 (62)	1.61 (41)	2.30 (58.5)	1.38 (35)	0.28 (7)	0.43 (11)	0.28 (7)	1.35 (34.2)	1.02 *(26)	2.78 (70.5)	3.15 (80)	9.78 (248.5)	—
NAC4010	1/4•3/8 •1/2	6.06 (154)	10.20 (259)	4.41 (112)	2.76 (70)	2.76 (70)	1.97 (50)	3.03 (77)	1.57 (40)	0.35 (9)	0.51 (13)	0.28 (7)	1.66 (42.2)	1.30 *(33)	3.46 (88)	4.13 (105)	11.8 (300)	—
NAC4010-N06	3/4	6.46 (164)	10.35 (263)	4.49 (114)	2.76 (70)	2.91 (74)	1.97 (50)	3.23 (82)	1.57 (40)	0.35 (9)	0.51 (13)	0.28 (7)	1.82 (46.2)	1.42 (36)	3.46 (88)	4.13 (105)	11.97 (304)	—

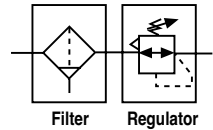
*Piping adapter with 1/2" port used on NAC3010 is 1.57 (40). Piping adapter with 3/4" port used on NAC4010 is 1.97 (50).

Semi-standard type

Model	Metal Bowl	Metal bowl with level gauge
	B	B
NAC1010	4.31 (109.5)	—
NAC2010	6.48 (164.5)	—
NAC3010	8.68 (220.5)	9.47 (240.5)
NAC4010	10.71 (272)	11.50 (292)
NAC4010-N06	10.89 (276.5)	11.67 (296.5)



ANSI Symbol



Filter

Regulator



Specifications (for "How to Order" see page 13)

Model	NAC1020	NAC2020	NAC2520	NAC3020	NAC4020	NAC4020-06	NAC5020	NAC5520	NAC6020	
Combination	Air filter	NAF1000	NAF2000	NAF3000	NAF3000	NAF4000	NAF4000-06	NAF5000	NAF6000	NAF6000
	Regulator	NAR1000	NAR2000	NAR2500	NAR3000	NAR4000	NAR4000-06	NAR5000	NAR5000	NAR6000
Port size NPT	M5X0.8	1/8 • 1/4	1/4 • 3/8	1/4 • 3/8	1/4 • 3/8 • 1/2	3/4	3/4 • 1	1	1	1
Port size for pressure gauge	1/16 Rc(PT)	1/8 NPT	1/8 NPT	1/8 NPT	1/4 NPT	1/4 NPT	1/4 NPT	1/4 NPT	1/4 NPT	1/4 NPT
Proof pressure psig (MPa)	220 (1.5)									
Max. op. pres. psig (MPa)	150 (1.0)									
Regulating range psig (MPa)	7~100 (0.05 ~ 0.7)		7~120 (0.05 ~ 0.85)							
Max. flow rate scfm*	3.5 (M5)	19.5 (1/4)	53 (3/8)	71 (3/8)	141 (1/2)	176.5 (3/4)	212 (3/4)	247 (1)	282.5 (1)	
Ambient and media temp.	23° ~140° F (-5 ~ 60° C)									
Filtration	5µm									
Bowl Material	Polycarbonate									
Construction/Regulator	Relieving style									
Weight lbs.	0.46	1.19	1.50	1.81	3.55	3.77	5.50	5.80	6.37	
Accessories (standard)	Bowl guard	—	●	●	●	●	●	●	●	●
	T-type bracket	B110T	B210T	B310T	B310T	B410T	B510T	B610T	B610T	B610T

* Conditions: Supply pressure - (100psig), Setting pressure - (70psig).

Attachments/Accessories (Optional)

Type	Part No.										
	NAC1020	NAC2020	NAC2520	NAC3020	NAC4020	NAC4020-N06	NAC5020	NAC5520	NAC6020		
Attachments	Pressure switch	—	NIS1000M-2	NIS1000M-3	NIS1000M-3	NIS1000M-4	NIS1000M-5	NIS1000M-6	NIS1000M-6	NIS1000M-6	
	T-Type spacer***	Y11-M5	Y21 □01 (□02)	Y31 (□01) □02	Y31 (□01) □02	Y41 (□02) □02	Y51 (□02) □03	Y61 □03 (□04)	Y61 (□03) □04	Y61 (□03) □04	
	Shut-off valve	—	NVHS2000-□01 □02	NVHS3000-□02 □03	NVHS3000-□02 □03	NVHS4000-□03 □04	—	—	—	—	
	Lock-out valve	—	NVHS2500-□01 □02	NVHS3500-□02 □03	NVHS3500-□02 □03	NVHS4500-□03 □04	—	□06 □10	□06 □10	□06 □10	
Accessories	Spacer	Y10	Y20	Y30	Y30	Y40	Y50	Y60	Y60	Y60	
	Piping adaptor**	E10-M5	E20-□01 □02 □03	E30-□02 □03 □04	E30-□02 □03 □04	E40-□03 □04	E50-□06	E60-□06 □10	E60-□06 □10	E60-□06 □10	
	Pressure gauge	G27-P10-R1	K40A-MP1.0-NO1M	K40A-MP1.0-NO1M	K40A-MP1.0-NO1M	K50A-MP1.0-NO2M	K50A-MP1.0-NO2M	K50A-MP1.0-NO2M	K50A-MP1.0-NO2M	K50A-MP1.0-NO2M	
	Float auto drain*	N.O.	—	—	NAD43	NAD43	NAD44	NAD44	NAD44	NAD44	NAD44
		N.C.	—	—	NAD53	NAD53	NAD54	NAD54	NAD54	NAD54	NAD54
Differential pressure auto drain	NAD61	NAD62-C	—	—	—	—	—	—	—	—	

* Min. operating pressure: N.O. - (15psig), N.C. - (22psig).

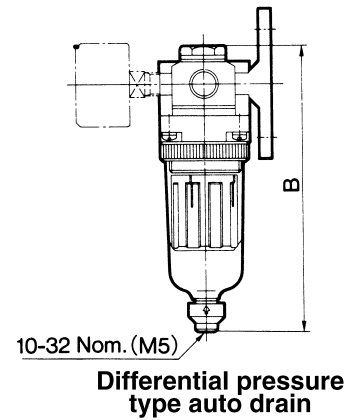
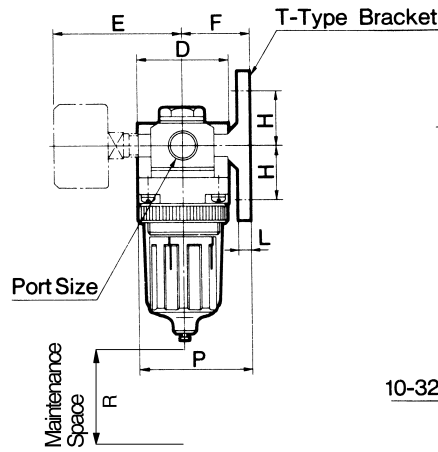
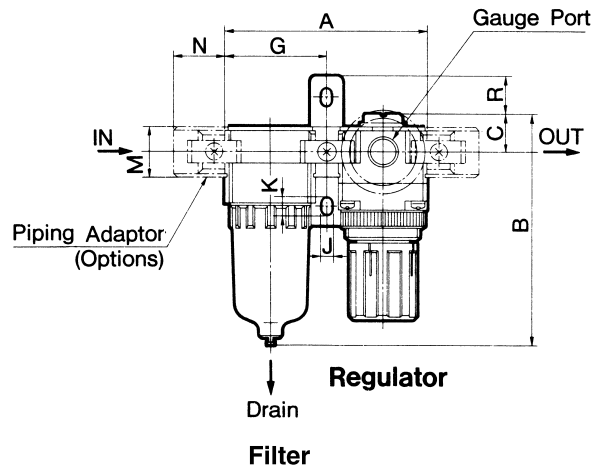
Port size: M5 = M5 x 0.8, □01 = 1/8, □02 = 1/4, □03 = 3/8, □04 = 1/2, □06 = 3/4, □10 = 1

***Standard port size without ()

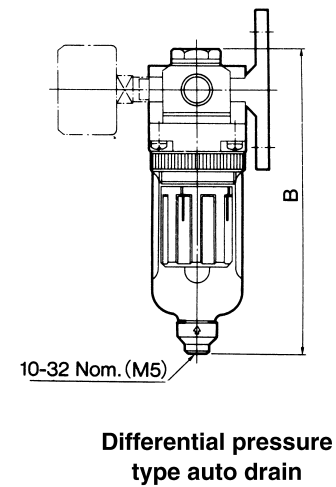
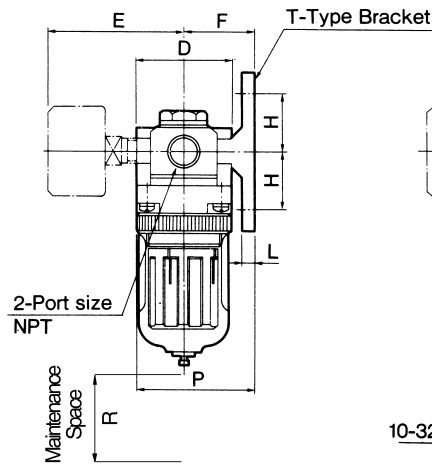
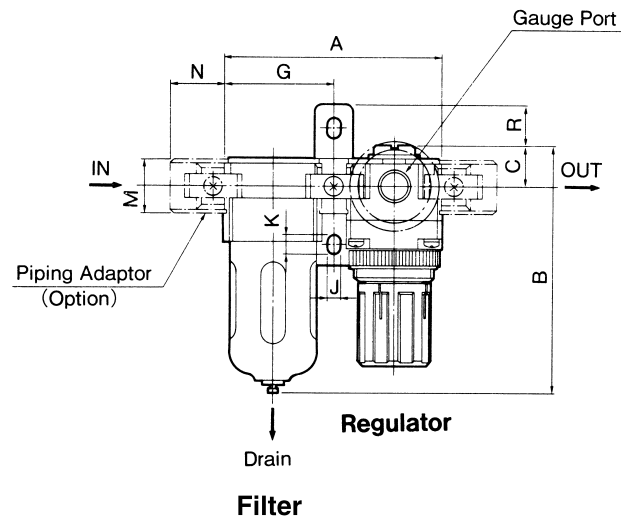
Filter+Regulator

NAC1020, 2020, 2520, 3020, 4020, 5020, 5520, 6020

NAC1020



NAC2020

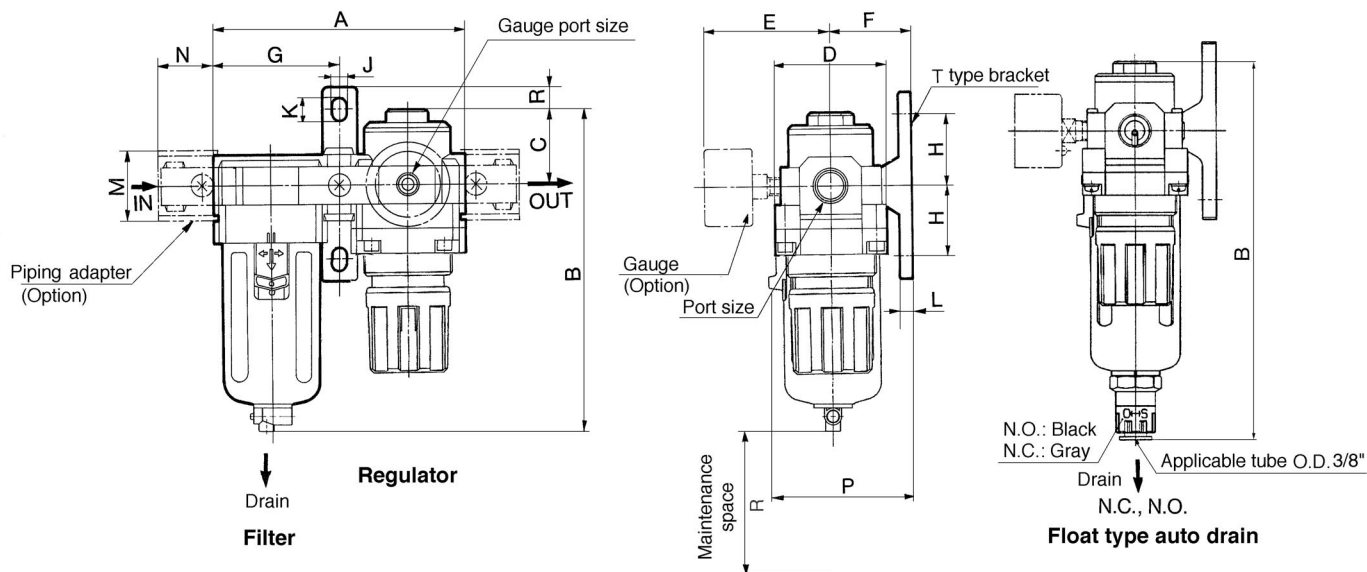


Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	With auto drain	
																	Float B	Differential pressure B
NAC1020	10-32 Nom (M5)	2.28 (58)	2.76 (70)	0.43 (11)	0.98 (25)	1.02 (26)	0.98 (25)	1.14 (29)	0.79 (20)	0.18 (4.5)	0.30 (7.5)	0.20 (5)	0.69 (17.5)	0.63 (16)	1.52 (38.5)	0.63 (16)	—	3.56 (90.5)
NAC2020	1/8 • 1/4	3.54 (90)	4.07 (103.5)	0.67 (17)	1.57 (40)	2.28 (58)	1.18 (30)	1.77 (45)	0.94 (24)	0.22 (5.5)	0.33 (8.5)	0.20 (5)	0.87 (22)	0.91 (23)	1.97 (50)	0.63 (16)	—	4.98 (126.5)

Semi-standard type

Model	Metal Bowl	Metal bowl with level gauge
	B	B
NAC1020	2.76 (70)	—
NAC2020	4.07 (103.5)	—

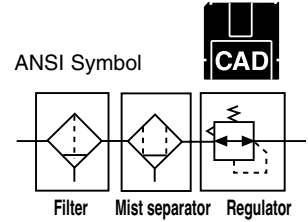
NAC2520 • 3020 • 4020 • 5020 • 5520 • 6020



Model	Port size NPT	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	Auto drain	
																	Float	Differential pressure
NAC2520	1/4 • 3/8	4.61 (117)	5.51 (140)	0.98 (25)	2.09 (53)	2.44 (62)	1.61 (41)	2.30 (58.5)	1.38 (35)	0.28 (7)	0.43 (11)	0.28 (7)	1.35 (34.2)	1.02 *(26)	2.78 (70.5)	0.79 (20)	7.13 (181)	—
NAC3020	1/4 • 3/8	4.61 (117)	5.91 (150)	1.38 (35)	2.09 (53)	2.44 (62)	1.61 (41)	2.30 (58.5)	1.38 (35)	0.28 (7)	0.43 (11)	0.28 (7)	1.35 (34.2)	1.02 *(26)	2.78 (70.5)	0.40 (10)	7.52 (191)	—
NAC4020	1/4 • 3/8 • 1/2	6.06 (154)	7.26 (184.5)	1.47 (37.5)	2.76 (70)	2.76 (70)	1.97 (50)	3.03 (77)	1.57 (40)	0.35 (9)	0.51 (13)	0.28 (7)	1.66 (42.2)	1.30 *(33)	3.46 (88)	0.49 (12.5)	8.88 (225.5)	—
NAC4020-N06	3/4	6.46 (164)	7.46 (189.5)	1.59 (40.5)	2.76 (70)	2.91 (74)	1.97 (50)	3.23 (82)	1.57 (40)	0.35 (9)	0.51 (13)	0.28 (7)	1.82 (46.2)	1.42 (36)	3.46 (88)	0.37 (9.5)	9.07 (230.5)	—
NAC5020	3/4 • 1	7.68 (195)	10.55 (268)	1.89 (48)	3.54 (90)	3.15 (80)	2.76 (70)	3.84 (97.5)	1.97 (50)	.47 (12)	.63 (16)	.39 (10)	2.17 (55.2)	1.57 (40)	4.53 (115)	.57 (14.5)	12.19 (309.5)	—
NAC5520	1	7.87 (200)	11.10 (282)	1.89 (48)	3.74 (95)	3.15 (80)	2.76 (70)	4.04 (102.5)	1.97 (50)	.47 (12)	.63 (16)	.39 (10)	2.17 (55.2)	1.57 (40)	4.63 (117.5)	.57 (14.5)	12.74 (323.5)	—
NAC6020	1	8.07 (205)	11.10 (282)	1.89 (48)	3.74 (95)	3.25 (82.5)	2.76 (70)	4.04 (102.5)	1.9 (50)	.47 (12)	.63 (16)	.39 (10)	2.17 (55.2)	1.57 (40)	4.63 (117.5)	.57 (14.5)	12.74 (323.5)	—

*Piping adapter with 1/2 port used on NAC 2520 • 3020 is 1.57 (40). Piping adapter with 3/4 port used on NAC 4020 is 1.97 (50).

Filter+Mist Separator+Regulator
NAC2030, 2530, 3030, 4030



Specifications (for "How to Order" see page 13)

Model		NAC2030	NAC2530	NAC3030	NAC4030	NAC4030-N06
Combination	Air Filter	NAF2000	NAF3000	NAF3000	NAF4000	NAF4000-N06
	Regulator	NAR2000	NAR2500	NAR3000	NAR4000	NAR4000-N06
	Mist separator	NAFM2000	NAFM3000	NAFM3000	NAFM4000	NAFM4000-N06
Port size NPT		1/8 • 1/4	1/4 • 3/8	1/4 • 3/8	1/4 • 3/8 • 1/2	3/4
Port size for pressure gauge		1/8 NPT	1/8 NPT	1/8 NPT	1/4 NPT	1/4 NPT
Proof pressure psig (MPa)		220 (1.5)				
Max. operating pressure psig (MPa)		150 (1.0)				
Regulating range psig (MPa)		7~120 (0.05 ~ 0.85)				
Max. Flow Rate scfm*		7	16	16	39	39
Ambient and media temperature		23° ~140° F (-5 ~ 60° C)				
Filtration		NAF: 5µm, NAFM: 0.3µm				
Oil mist removal rate		More than 99.9%				
Bowl material		Polycarbonate				
Construction/Regular		Relieving style				
Weight lbs.		1.57	2.27	2.58	4.87	5.42
Accessories (standard)	Bowl guard	●	●	●	●	●
	Bracket	B210L	B310L	B310L	B410L	B510L

* Conditions: Supply pressure - (100psig), Setting pressure - (70psig).

Attachments/Accessories (Optional)

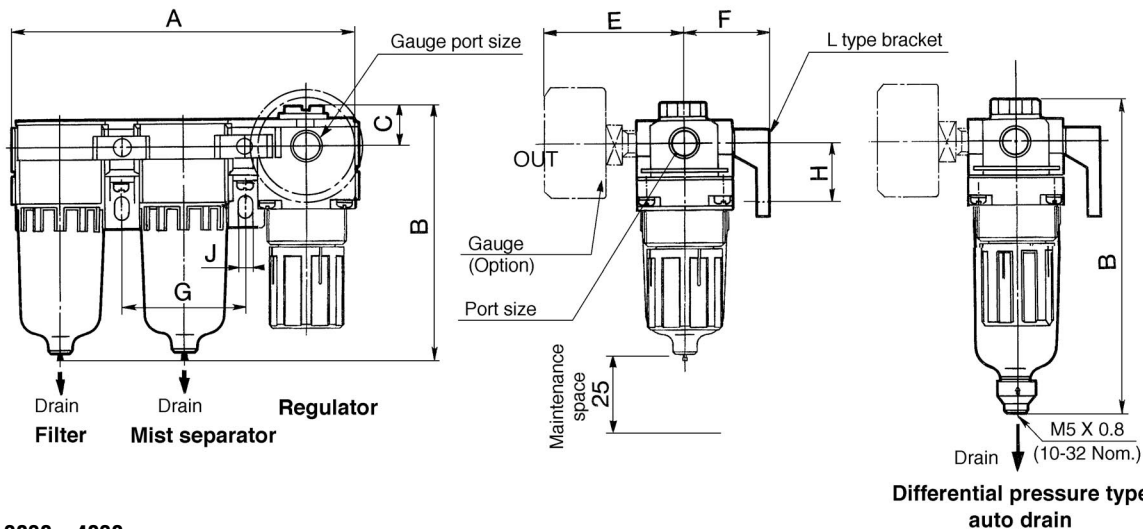
Type	Part No.						
	NAC2030	NAC2530	NAC3030	NAC4030	NAC4030-06		
Attachments	Pressure switch	NIS1000M-2Y	NIS1000M-3Y	NIS1000M-3Y	NIS1000M-4Y	NIS1000M-5Y	
	T-Type spacer	Y21- □01 □02	Y31- □01 □02	Y31- □01 □02	Y41- □02 □03	Y41- □02 □03	
	Shut-off valve	NVHS2000- □01 □02	NVHS3000- □02 □03	NVHS3000- □02 □03	NVHS4000- □02 □03 □04	—	
	Lock-out valve	NVHS2500- □01 □02	NVHS3500- □02 □03	NVHS3500- □02 □03	NVHS4500- □02 □03 □04	—	
Accessories	Type bracket	B210T	B310T	B310T	B410T	B510T	
	Spacer	Y20	Y30	Y30	Y40	Y50	
	Piping adaptor**	E20- □01 □02 □03	E30- □02 □03 □04	E30- □02 □03 □04	E40- □02 □03 □04 □06	E50-□06	
	Pressure gauge	K40A-MP1.0-N01M	K40A-MP1.0-N01M	K40A-MP1.0-N01M	K50A-MP1.0-N02M	K50A-MP1.0-N02M	
	Float type auto drain*	N.O.	—	NAD43	NAD43	NAD44	NAD44
		N.C.	—	NAD53	NAD53	NAD54	NAD54
Differential pressure auto drain	NAD62-C	—	—	—	—		

* Min. operating pressure: N.O. - (15psig), N.C. - (22psig)

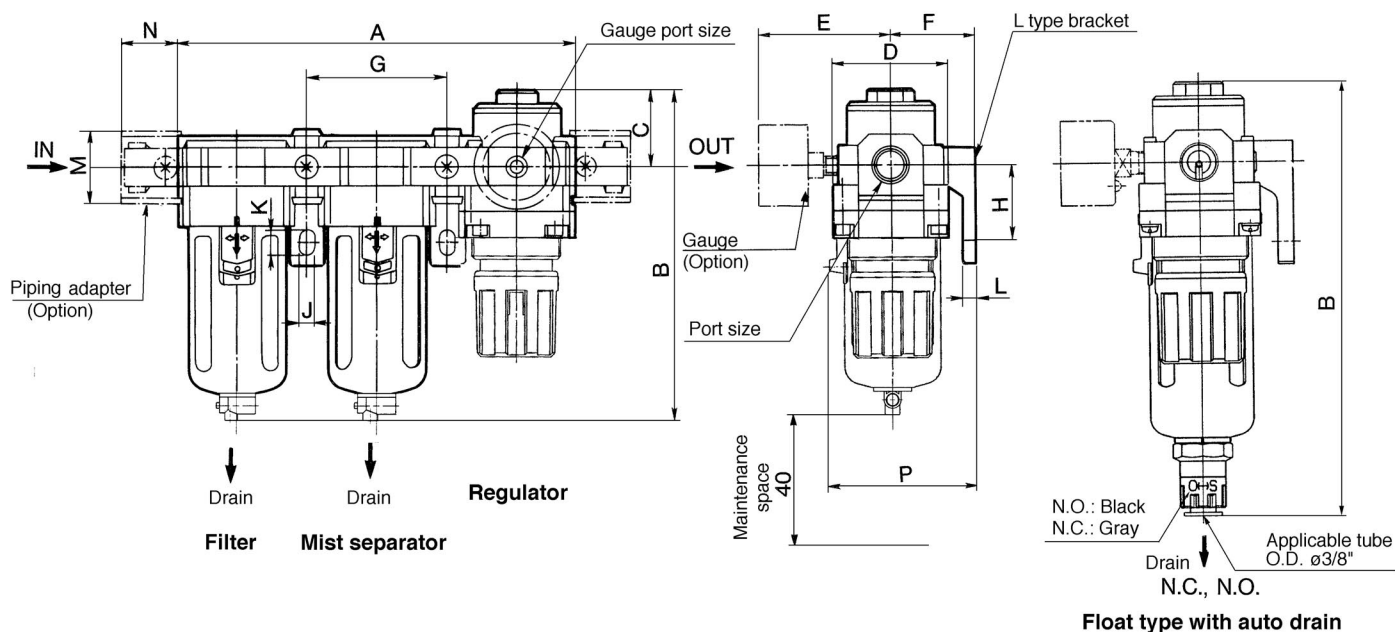
** Port size: □01 = 1/8, □02 = 1/4, □03 = 3/8, □04 = 1/2, □06 = 3/4

*** Standard port size without ()

NAC2030



NAC2530 • 3030 • 4030



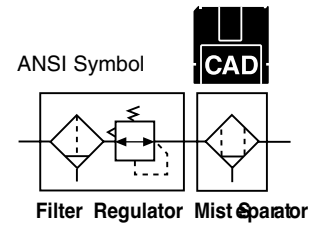
Model	Port size (NPT)	A	B	C	D	E	F	G	H	J	K	L	M	N	P	With auto drain	
																Float B	Differential pressure B
NAC2030	1/8 • 1/4	5.51 (140)	4.07 (103.5)	0.67 (17)	1.57 (40)	2.28 (58)	1.18 (30)	1.97 (50)	0.94 (24)	0.22 (5.5)	0.33 (8.5)	0.20 (5)	0.87 (22)	0.91 (23)	1.97 (50)	—	4.98 (126.5)
NAC2530	1/4 • 3/8	7.13 (181)	5.51 (140)	0.98 (25)	2.09 (53)	2.44 (62)	1.61 (41)	2.52 (64)	1.38 (35)	0.28 (7)	0.43 (11)	0.28 (7)	1.35 (34.2)	1.02 *(26)	2.78 (70.5)	7.13 (181)	—
NAC3030	1/4 • 3/8	7.13 (181)	5.91 (150)	1.38 (35)	2.09 (53)	2.44 (62)	1.61 (41)	2.52 (64)	1.38 (35)	0.28 (7)	0.43 (11)	0.28 (7)	1.35 (34.2)	1.02 *(26)	2.78 (70.5)	7.52 (191)	—
NAC4030	1/4 • 3/8 • 1/2	9.37 (238)	7.26 (184.5)	1.48 (37.5)	2.76 (70)	2.76 (70)	1.97 (50)	3.31 (84)	1.57 (40)	0.35 (9)	0.51 (13)	0.28 (7)	1.67 (42.5)	1.30 *(33)	3.46 (88)	8.88 (225.5)	—
NAC4030-N06	3/4	9.96 (253)	7.46 (189.5)	1.59 (40.5)	2.76 (70)	2.91 (74)	1.97 (50)	3.50 (89)	1.57 (40)	0.35 (9)	0.51 (13)	0.28 (7)	1.82 (46.2)	1.42 (36)	3.46 (88)	9.07 (230.5)	—

*Piping adapter with 1/2 port used on NAC 2530 • 3030 is 1.57 (40). Piping adapter with 3/4 port used on NAC 4030 is 1.97 (50).

Semi-standard type

Model	Metal bowl B	Metal bowl with level gauge B
NAC2030	4.07 (103.5)	—
NAC2530	6.02 (153)	6.81 (173)
NAC3030	6.42 (163)	7.20 (183)
NAC4030	7.78 (197.5)	8.56 (217.5)
NAC4030-N06	7.97 (202.5)	8.76 (222.5)

Filter/Regulator + Mist Separator
NAC2040, 3040, 4040



Specifications (for "How to Order" see page 13)

Model		NAC2040	NAC3040	NAC4040	NAC4040-N06
Combination	Filter regulator	NAW2000	NAW3000	NAW4000	NAW4000-06
	Mist separator	NAFM2000	NAFM3000	NAFM4000	NAFM4000-N06
Port size NPT		1/8 • 1/4	1/4 • 3/8	1/4 • 3/8 • 1/2	3/4
Port size for pressure gauge		1/8 NPT	1/8 NPT	1/4 NPT	1/4 NPT
Proof pressure psig (MPa)		220 (1.5)			
Max. operating pressure psig (MPa)		150 (1.0)			
Regulating range psig		7~120 (0.05 ~ 0.85)			
Max. flow rate scfm*		5	11.8	28	28
Ambient and media temperature		23° ~140° F (-5 ~ 60° C)			
Filtration		AW: 5µm, NAFM: 0.3µm			
Oil mist removal rate		More than 99.9%			
Bowl material		Polycarbonate			
Construction of filter/regulator		Relieving style			
Weight lbs.		1.39	2.14	4.21	4.39
Accessories (standard)	Bowl guard	●	●	●	●
	Bracket	B210T	B310T	B410T	B510T

* Conditions: Supply pressure - (100psig), Setting pressure - (70psig).

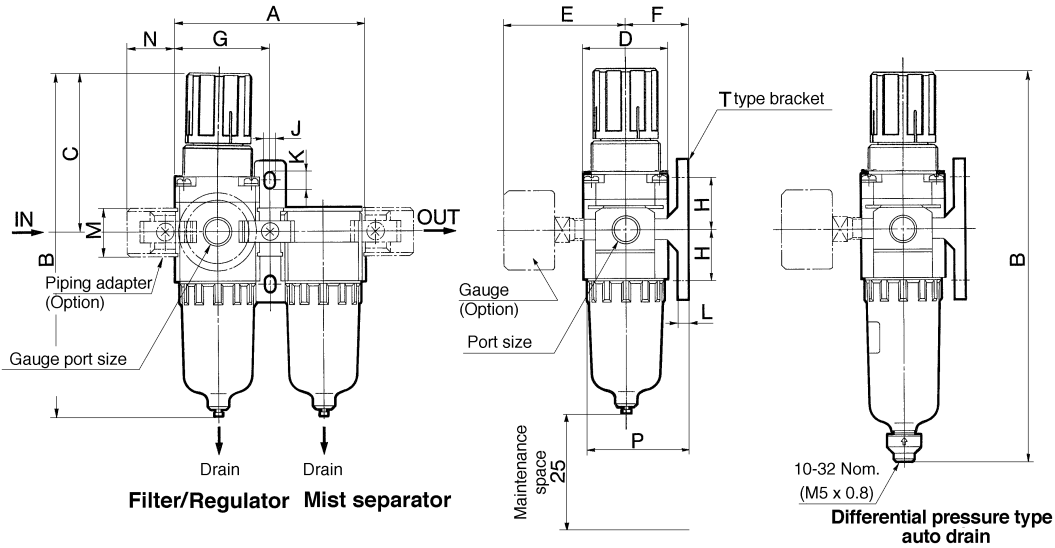
Attachments/Accessories (Optional)

Type	Part No.					
	NAC2040	NAC3040	NAC4040	NAC4040-N06		
Attachments	Lock-out valve	NVHS2500-□01	NVHS3500-□02	NVHS4500-□02 □03 □04	—	
	Shut-off valve	NVHS2000-□01 □02	NVHS3000-□02 □03	NVHS4000-□02 □03 □04	—	
	Cross spacer	Y24-□01 □02	Y34-□01 □02	Y44-□02 □03	Y54-□03 □04	
Accessories	Spacer	Y20	Y30	Y40	Y50	
	Piping adaptor**	E20-□01 □02 □03	E30-□02 □03 □04	E40-□02 □03 □04 □06	E50-□06	
	Pressure gauge	K40A-MP1.0-N01M	K40A-MP1.0-N01M	K50A-MP1.0-N02M	K50A-MP1.0-N02M	
	Float auto drain*	N.O.	—	NAD43	NAD44	NAD44
		N.C.	—	NAD53	NAD54	NAD54
Differential pressure type auto drain	NAD62-C	—	—	—		

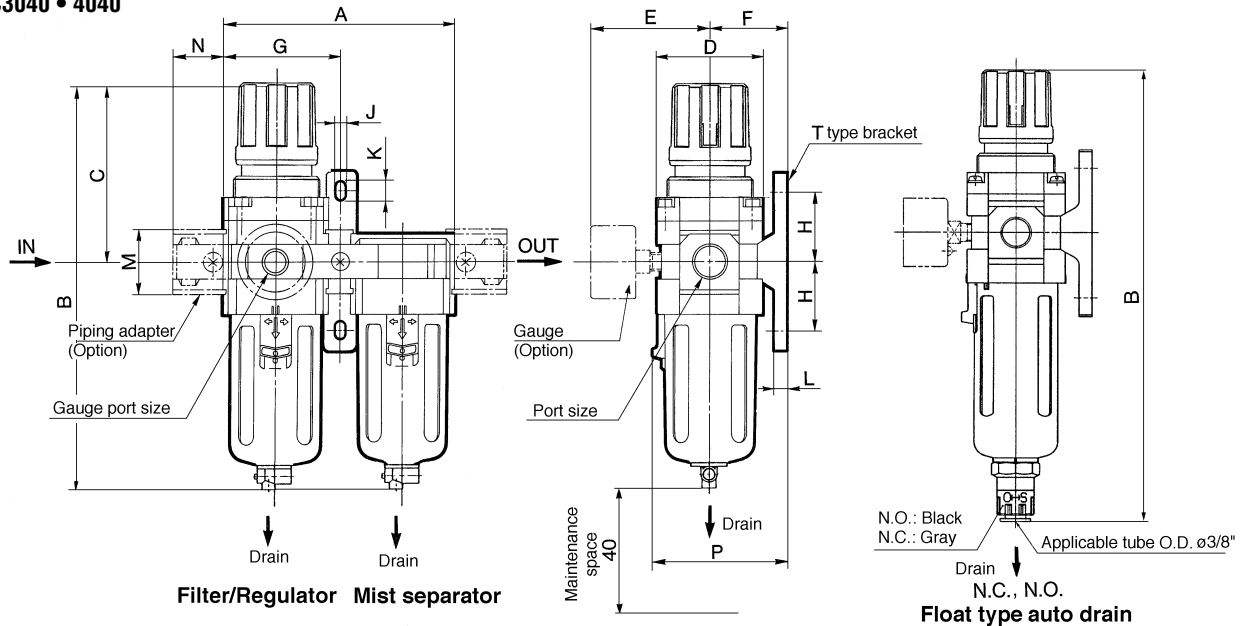
* Min. operating pressure: N.O. - (15psig), N.C. - (22psig).

Port size: M5 = M5 x 0.8, □01 = 1/8, □02 = 1/4, □03 = 3/8, □04 = 1/2, □06 = 3/4

NAC2040



NAC3040 • 4040



Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Float	Differential pressure
		(90)	(164.5)	(78)	(40)	(58)	(30)	(45)	(24)	(5.5)	(8.5)	(5)	(22)	(23)	(50)	—	7.38 (187.5)
NAC2040	1/8" 1/4"	3.54 (90)	6.48 (164.5)	3.07 (78)	1.57 (40)	2.28 (58)	1.18 (30)	1.77 (45)	0.94 (24)	0.22 (5.5)	0.33 (8.5)	0.20 (5)	0.87 (22)	0.91 (23)	1.97 (50)	—	7.38 (187.5)
NAC3040	1/4" 3/8"	4.61 (117)	8.17 (207.5)	3.64 (92.5)	2.09 (53)	2.44 (62)	1.61 (41)	2.30 (58.5)	1.38 (35)	0.28 (7)	0.43 (11)	0.28 (7)	1.35 (34.2)	1.02 *(26)	2.78 (70.5)	9.78 (248.5)	—
NAC4040	3/8" 1/2"	6.06 (154)	10.20 (259)	4.41 (112)	2.76 (70)	2.76 (70)	1.97 (50)	3.03 (77)	1.57 (40)	0.35 (9)	0.51 (13)	0.28 (7)	1.66 (42.2)	1.30 *(33)	3.46 (88)	11.81 (300)	—
NAC4040-N06	3/4"	6.46 (164)	10.35 (263)	4.49 (114)	2.76 (70)	2.91 (74)	1.97 (50)	3.23 (82)	1.57 (40)	0.35 (9)	0.51 (13)	0.28 (7)	1.82 (46.2)	1.42 (36)	3.46 (88)	11.97 (304)	—

*Piping adapter with 1/2" port used on NAC3040 is 1.57 (40). Piping adapter with 3/4" port used on NAC4040 is 1.97 (50).

Semi-standard type

Model	Metal Bowl	Metal bowl with level gauge
	B	B
NAC2040	6.48 (164.5)	—
NAC3040	8.68 (220.5)	9.47 (240.5)
NAC4040	10.71 (272)	11.50 (292)
NAC4040-N06	10.89 (276.5)	11.67 (296.5)

Modular Air Components

Modular Air Components 28-81

NAF1000 ~ NAF6000 Filter28-32
NAFM2000 ~ NAFM4000 Mist Separator33-36
NAFD2000 ~ NAFD4000 Micro Mist Separator37-40
NAR1000 ~ 6000 Regulator41-47
NAR1000~ 6060 Regulator with Check Valve49-54
NAR2550 ~ 4050 Regulator with Quick Relief55-57
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NAW1000 ~ NAW4000 Filter/Regulator65-70
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NAWM2000 ~ 4000 Mist Separator/Regulator74-77
NAWD2000 ~ 4000 Micro Mist Separator/Regulator78-81

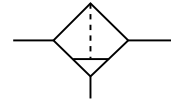
Filter

NAF1000, 2000, 3000, 4000, 5000, 6000

- Prevents contaminants from entering a pneumatic system.
- Modular design connects with other SMC Air Preparation Equipment.



ANSI Symbol



Specifications

Model	NAF1000	NAF2000	NAF3000	NAF4000	NAF4000-06	NAF5000	NAF6000
Port size NPT	10-32 Nom. (M5)	1/8 • 1/4	1/4 • 3/8	1/4 • 3/8 • 1/2	3/4	3/4 • 1	1
Max. supply pressure psig (MPa)	220 (1.5)						
Max. operating pressure psig (MPa)	150 (1.0)						
Ambient and media temperature	23° ~140° F (-5° ~ 60° C)						
Filtration	5µm						
Bowl material	Polycarbonate						
Bowl capacity ozs. (cm ³)	.08 (2.5)	.27 (8)	.78 (23)	1.52 (45)	1.52 (45)	1.52 (45)	1.52 (45)
Weight lbs. (kgf)	0.15 (0.07)	0.42 (0.19)	0.64 (0.29)	1.21 (0.55)	1.28 (0.58)	2.38 (1.08)	2.60 (1.18)
Accessory (standard)	Bowl guard	—	●	●	●	●	●

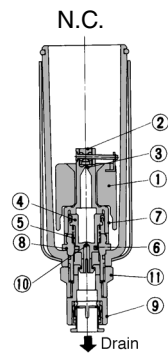
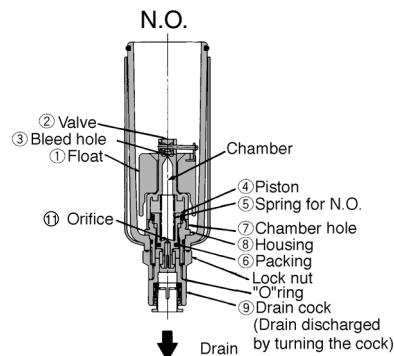
Attachments/Accessories (Optional)

Type	Part No.						
	NAF1000	NAF2000	NAF3000	NAF4000	NAF4000-06	NAF5000	NAF6000
Bracket	—	B240A	B340A	B440A	B540A	B640A	B640A
Float auto drain*	N.O.	—	—	NAD43	NAD44	NAD44	NAD44
	N.C.	—	—	NAD53	NAD54	NAD54	NAD54
Differential pressure auto drain*	NAD61	NAD62-C	—	—	—	—	—

* Min. operating pressure: N.O. - (15psig), N.C. - (22psig)

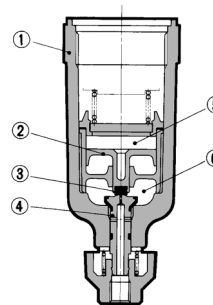
Auto Drain Types

Float Type (N.O.- NAD43•44 / N.C.- NAD53•54)



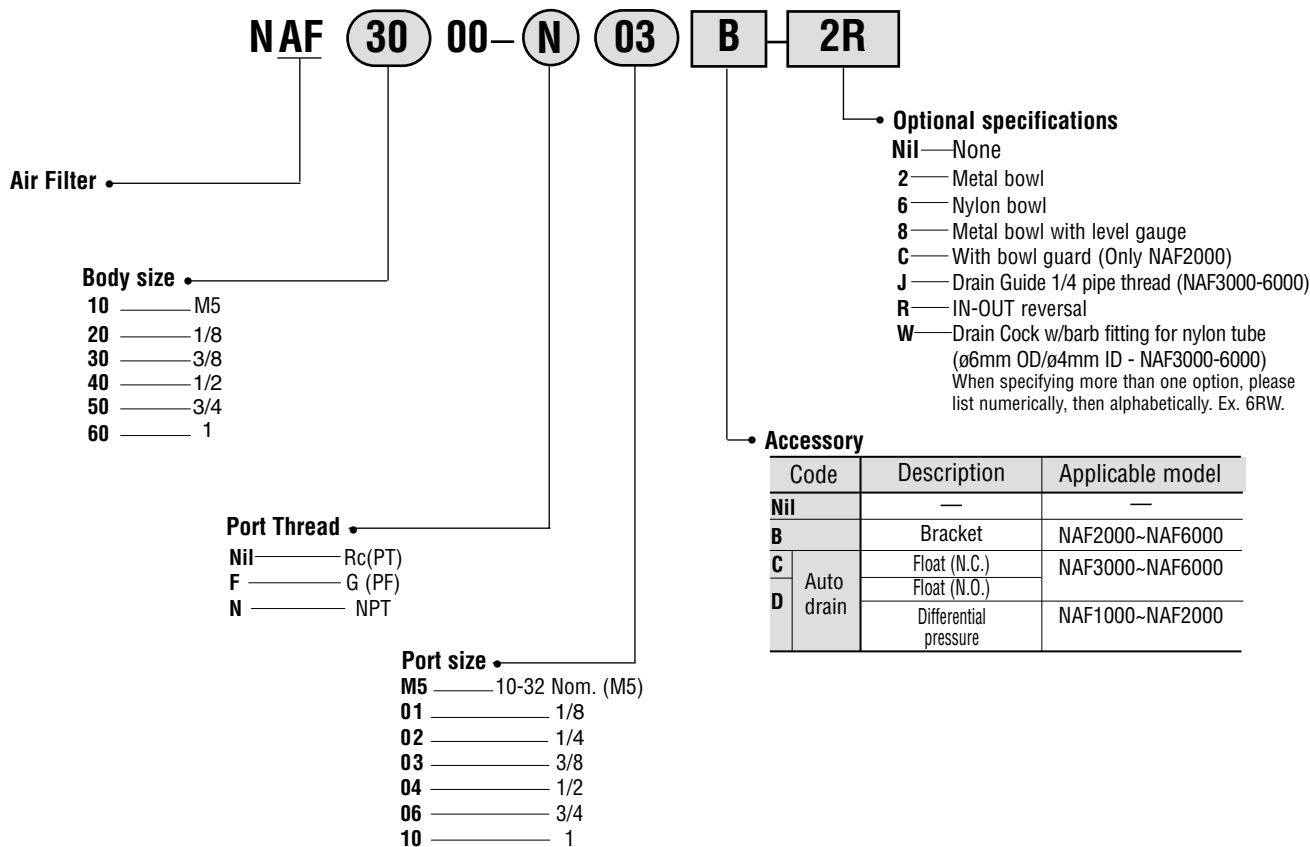
With no liquid inside the bowl, float ① is forced down by gravity and closes the valve ②. Piston ④ is held by spring ⑤ in position where it is sealed by O-ring ⑥. When liquid collects, float ① rises due to buoyancy, and opens the bleed hole ③ allowing pressure to enter the chamber. Piston ④ is forced down by pressure and liquid is exhausted through chamber hole ⑦, drain housing ⑧ and stem ⑩. When the liquid is exhausted and valve closes again, pressure in the chamber escapes through piston ④ and orifice ⑪ with the result that piston ④ is pushed upward by spring ⑤ to be sealed again by O-ring ⑥.

Differential Pressure (NAD61•62)



With no pressure in bowl, piston ② is forced down by gravity. When the piston is pressurized to 15 psi or higher, valve seat ⑤ closes. At this time the pressure of upper chamber ⑦ and lower chamber ⑥ will be the same. When air is consumed, pressure of the upper chamber decreases and a pressure differential is created between upper and lower chambers. Piston ② then raises and the valve ④ opens, draining the accumulated liquid. During the process of draining, the pressure of the lower chamber ⑥ decreases, pressurizing piston ② and the valve ④ closes. When air consumption is constant, the pressure of the two chambers are equal and valve ④ remains closed.

How to Order



▼ Combination
 □ No Combination
 ● Refer to "How to order"

Accessories and Combination Table

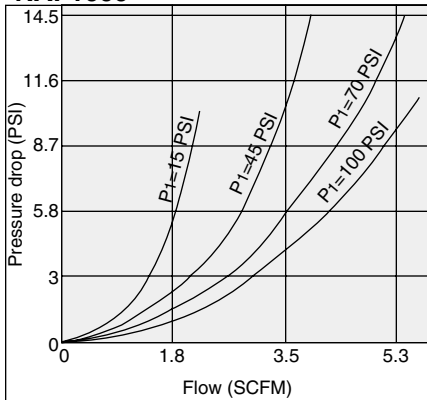
Accessory	Suffix	D	D	C	2	6	8	C	J	R	W	Applicable model			
												NAF1000	NAF2000	NAF3000	NAF4000 NAF6000
Differential pressure auto drain	D				▼	▼		●		▼		▼	▼		
Float auto drain (N.O.)	D				▼	▼	●			▼				▼	▼
Float auto drain (N.C.)	C				▼	▼	●			▼				▼	▼
Metal bowl	-2	▼	▼	▼					●	▼			▼	▼	▼
Nylon bowl	-6	▼	▼	▼				●	●	▼	●		▼	▼	▼
Metal bowl with level gauge	-8		▼	▼					●	▼				▼	▼
With bowl guard	-C	▼				▼				▼			▼		
Drain guide (1/4)	-J				▼	▼	●			▼				▼	▼
In-Out reversal	-R	▼	▼	▼	▼	▼	●	●	●		●		▼	▼	▼
Drain cock, with barb fitting	-W					▼				▼				▼	▼

Filter

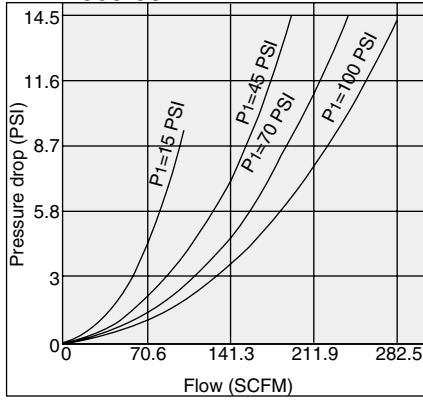
NAF1000, 2000, 3000, 4000, 5000, 6000

Flow Characteristics

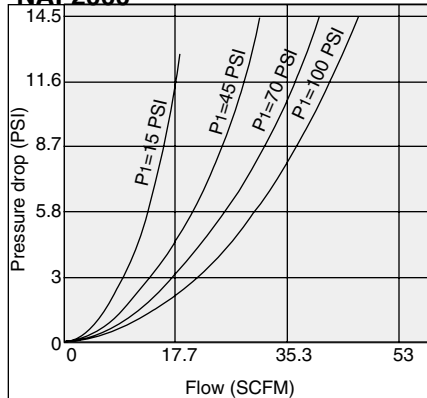
NAF1000



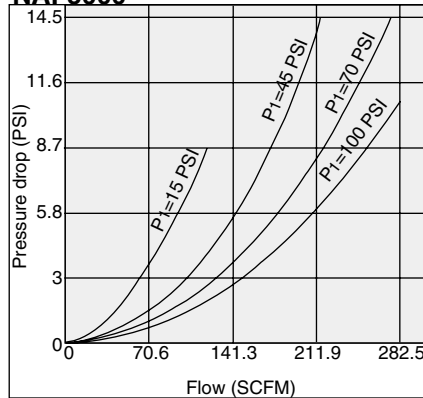
NAF4000-06



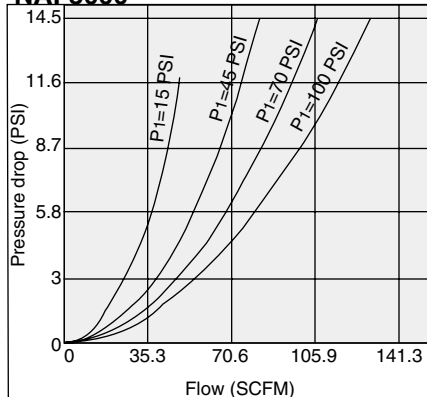
NAF2000



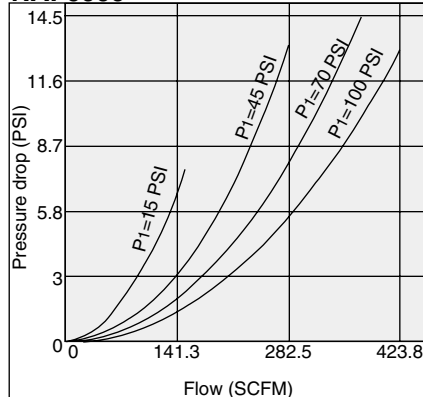
NAF5000



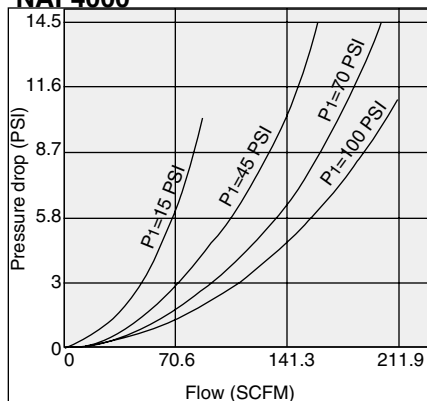
NAF3000



NAF6000



NAF4000



Precautions

Installation

- 1 Flush piping before installation.

Atmosphere

- 1 Polycarbonate bowls may be damaged and possibly fail if exposed to synthetic oils, thinner solvents, trichlorethylene, kerosene or other aromatic hydrocarbons. When used in above atmospheres, please use a metal bowl.

Auto Drain

- 1 Float type (Normally open) drain line should be 5/16 in. (8mm) or more and should be less than 16.5 ft. (5m). Be sure not to have any upward turns in the drain line which would prevent drainage.
- 2 Unsuitable for flow below 3.5scfm (100Nl/min).
- 3 Min. operating pressure 15psi (0.1MPa).

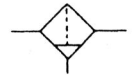
Differential type

- 1 Min. operating pressure 15psi (0.1MPa).
- 2 Soft nylon tube of more than 3/32 in. (2.5mm) is recommended for drain piping. The overall length should be less than 16.5 ft. (5m). Be sure not to have any upward turns in the piping.

- 3 Install vertically.

Maintenance

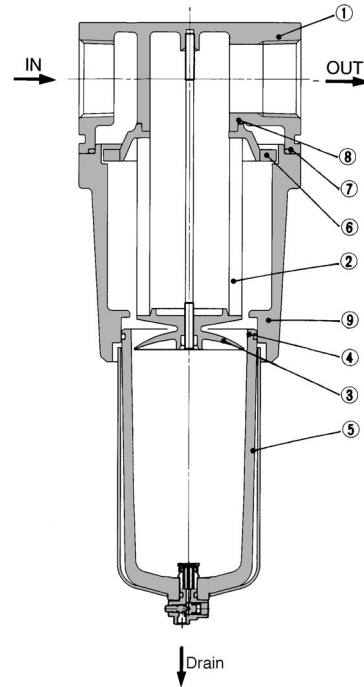
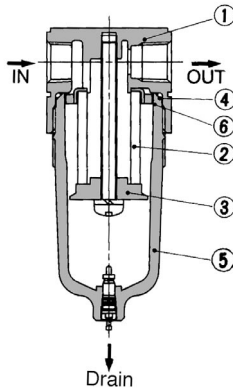
- 1 Filter element to be changed after 1 year or when a pressure drop of 15psi (0.1MPa) is reached.



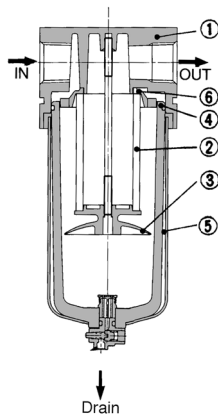
Construction/Parts List

NAF1000 • 2000

NAF5000 • 6000



NAF3000 • 4000



Main Parts

	Name	Material			Note
		NAF1000• 2000	NAF3000• 4000• 4000-N06	NAF5000• 6000	
①	Body	Zinc die casting	Aluminum die casting		Platinum silver painting
⑨	Housing	—		Aluminum die casting	Platinum silver painting

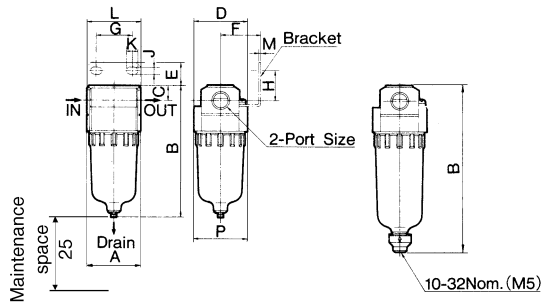
Parts List

	Name	Material	Part No.						
			NAF1000	NAF2000	NAF3000	NAF4000	NAF4000-N06	NAF5000	NAF6000
②	Filter Element	Polyolefin	111344	1129116	111585	1116103	1116103	111724	111825
③	Baffle	ABS	111312	—	—	—	—	111727	111824
		PBT	—	11295	111522	111622	111622	—	—
④	O-ring	NBR	111325	11297	111512	111636	111636	111636	111636
⑤	Bowl assembly	Polycarbonate	NC100F	NC200F-C	NC300F	NC400F	NC400F	NC400F	NC400F
⑥	Deflector	ABS	11133A	—	—	—	—	111726	111823
		PBT	—	1129111	11158	11167	11167	—	—
⑦	O-ring	NBR	—	—	—	—	—	111710	11189
⑧	Packing	NBR	—	—	—	—	—	111711	111810

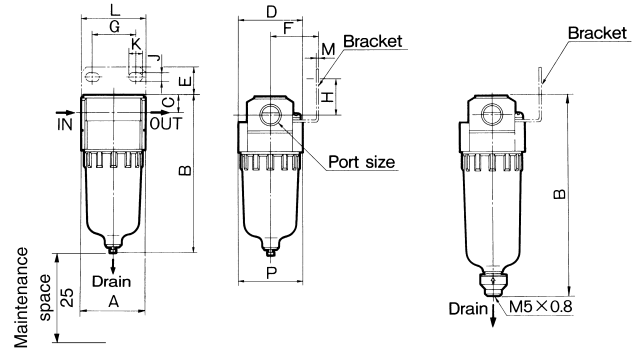
Dimensions

NAF1000, 2000, 3000, 4000, 5000, 6000

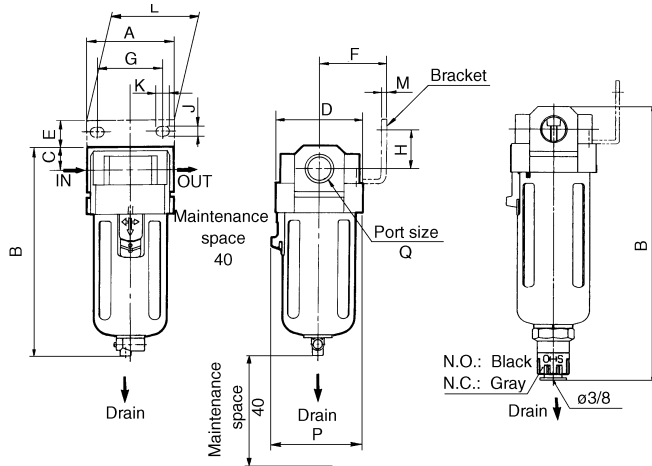
NAF1000



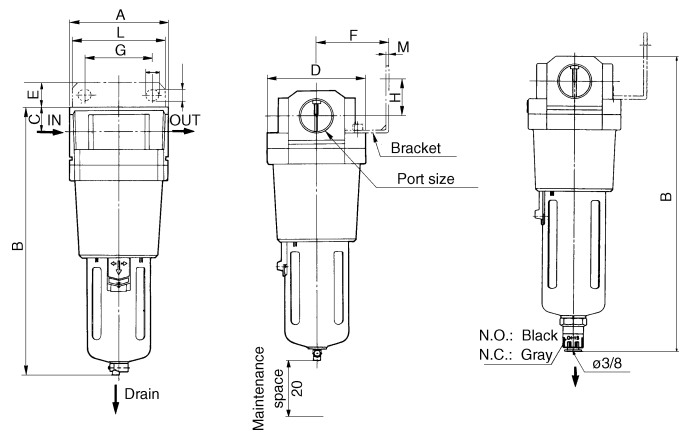
NAF2000



NAF3000•4000•4000-06



NAF5000•6000



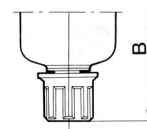
(mm)

Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	P	With auto drain	
															Float B	Differential pressure B
NAF1000	10-32 Nom. (M5)	0.98 (25)	2.60 (66)	0.28 (7)	0.98 (25)	—	—	—	—	—	—	—	—	1.08 (27.5)	—	3.41 (86.5)
NAF2000	1/8 • 1/4	1.57 (40)	3.84 (97.5)	0.43 (11)	1.57 (40)	0.67 (17)	1.18 (30)	1.06 (27)	0.87 (22)	0.21 (5.4)	0.33 (8.4)	1.57 (40)	0.09 (2.3)	1.57 (40)	—	4.74 (120.5)
NAF3000	1/4 • 3/8	2.09 (53)	5.08 (129)	0.55 (14)	2.09 (53)	0.63 (16)	1.61 (41)	1.57 (40)	0.91 (23)	0.26 (6.5)	0.31 (8)	2.09 (53)	0.09 (2.3)	2.20 (56)	6.69 (170)	—
NAF4000	1/4 • 3/8 • 1/2	2.76 (70)	6.50 (165)	0.71 (18)	2.76 (70)	0.67 (17)	1.97 (50)	2.13 (54)	1.02 (26)	0.33 (8.5)	0.41 (10.5)	2.76 (70)	0.09 (2.3)	2.87 (73)	8.11 (206)	—
NAF4000-N06	3/4	2.95 (75)	6.55 (169)	0.79 (20)	2.76 (70)	0.55 (14)	1.97 (50)	2.13 (54)	0.98 (25)	0.33 (8.5)	0.41 (10.5)	2.76 (70)	0.09 (2.3)	2.87 (73)	8.27 (210)	—
NAF5000	3/4 • 1	3.54 (90)	9.61 (244)	0.94 (24)	3.54 (90)	0.91 (23)	2.76 (70)	2.60 (66)	1.38 (35)	0.43 (11)	0.51 (13)	3.54 (90)	0.13 (3.2)	—	11.24 (285.5)	—
NAF6000	1	3.74 (95)	10.16 (258)	0.94 (24)	3.74 (95)	0.91 (23)	2.76 (70)	2.60 (66)	1.38 (35)	0.43 (11)	0.51 (13)	3.54 (90)	0.13 (3.2)	—	11.79 (299.5)	—

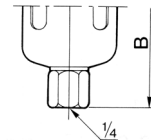
Model	Metal Bowl	w/ Drain Guide	Drain Cock w/ barb fitting	Metal bowl w/ level gauge
	B	B	B	B
NAF1000	2.60 (66)	—	—	—
NAF2000	3.84 (97.5)	—	—	—
NAF3000	5.59 (142)	5.31 (135)	5.41 (137.5)	6.38 (162)
NAF4000	7.01 (178)	6.73 (171)	6.83 (173.5)	7.80 (198)
NAF4000-N06	7.17 (182)	6.89 (175)	6.99 (177.5)	7.95 (202)
NAF5000	10.12 (257)	9.84 (250)	9.94 (252.5)	10.91 (277)
NAF6000	10.67 (271)	10.39 (264)	10.49 (266.5)	11.46 (291)

Semi-standard Type

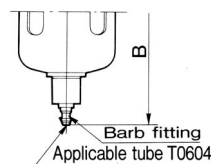
Metal bowl



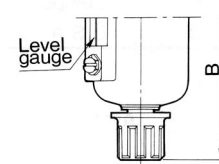
With drain guide



Drain cock/with barb fitting



Metal bowl with level gauge



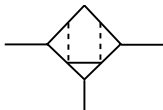


NAFM4000



NAFM3000

ANSI Symbol



Specifications

Model	NAFM2000	NAFM3000	NAFM4000	NAFM4000-N06
Port size NPT	1/8 • 1/4	1/4 • 3/8	1/4 • 3/8 • 1/2	3/4
Proof pressure psig (MPa)	220 (1.5)			
Max. operating pressure psig (MPa)	150 (1.0)			
Min. operating pressure psig (MPa)	7 (0.05)			
Flow capacity scfm*	7	16	39	39
Filtration	0.3µm			
Bowl material	Polycarbonate			
Bowl capacity oz(cm³)	.27 (8)	.78 (23)	1.52 (45)	1.52 (45)
Weight lbs. (kgf)	0.42 (0.19)	0.64 (0.29)	1.19 (0.54)	1.28 (0.58)
Accessory (standard)	Bowl guard	●	●	●

* Conditions: Supply pressure: 100psig.

Accessories (Optional)

Type	Part No.			
	NAFM2000	NAFM3000	NAFM4000	NAFM4000-N06
Bracket	B240A	B340A	B440A	B540A
Float type auto drain*	N.O.	—	NAD43	NAD44
	N.C.	—	NAD53	NAD54
Differential type auto drain*	NAD62-C	—	—	—

* Min. operating pressure: N .O. - 15 psig, N.C. - 22 psig.

Precautions

Installation

- ① Flush piping before installation.

Atmosphere

- ① Polycarbonate bowls may be damaged and possibly fail if exposed to synthetic oils, thinner solvents, trichlorethylene, kerosene or other aromatic hydrocarbons. When used in above atmosphere, please use a metal bowl.

Auto Drain

- ① Float type (Normally open) drain line should be 5/16 in. (8mm) or more and should be less than 16.5 ft. (5m). Be sure not to have any upward turns in the drain line which would prevent drainage.
- ② Unsuitable for flow below 3.5scfm (100ℓ/min).
- ③ Min. operating pressure 15psi (0.1MPa).

Differential type

- ① Min. operating pressure 15psi (0.1MPa).
- ② Soft nylon tube of more than 3/32 in. (2.5mm) is recommended for drain piping. The overall length should be less than 16.5 ft. (5m). Be sure not to have any upward turns in the piping.
- ③ Install vertically.

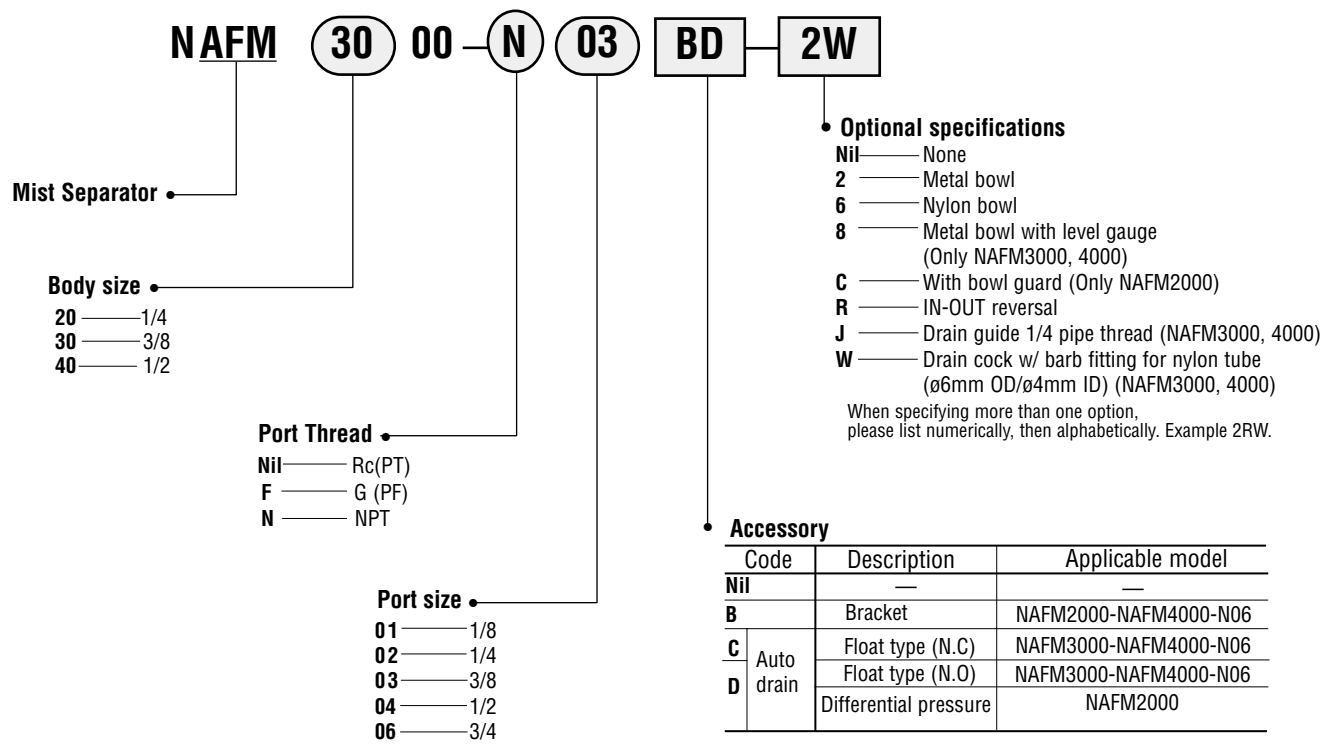
Maintenance

- ① Filter element to be changed after 1 year or when a pressure drop of 15psi (0.1MPa) is reached.

How To Order

NAFM2000, 3000, 4000

How to Order



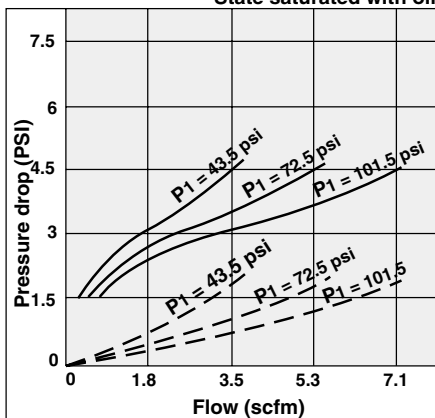
Accessories and Combination Table

- ▼ Combination
- No Combination
- Refer to "How to order"

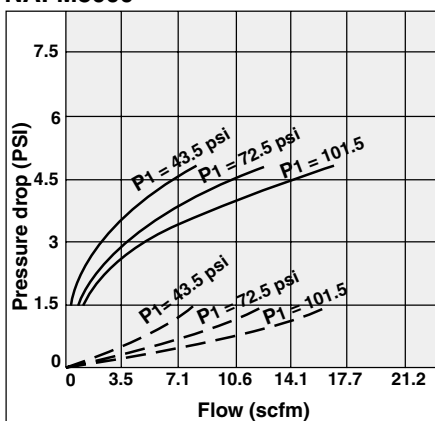
Accessory	Suffix	D	D	C	2	6	8	C	J	R	W	Applicable model		
												NAFM2000	NAFM3000	NAFM4000 NAFM6000
Differential pressure auto drain	D				▼	▼		●		▼		▼		
Float auto drain (N.O.)	D				▼	▼	●			▼			▼	▼
Float auto drain (N.C.)	C				▼	▼	●			▼			▼	▼
Metal bowl	-2	▼	▼	▼					●	▼		▼	▼	▼
Nylon bowl	-6	▼	▼	▼				●	●	▼	●	▼	▼	▼
Metal bowl with level gauge	-8		▼	▼					●	▼		▼	▼	▼
With bowl guard	-C	▼				▼				▼		▼		
Drain guide (1/4)	-J				▼	▼	●			▼			▼	▼
In-Out reversal	-R	▼	▼	▼	▼	▼	●	●	●		●	▼	▼	▼
Drain cock, with barb fitting	-W					▼				▼			▼	▼

Flow Characteristics

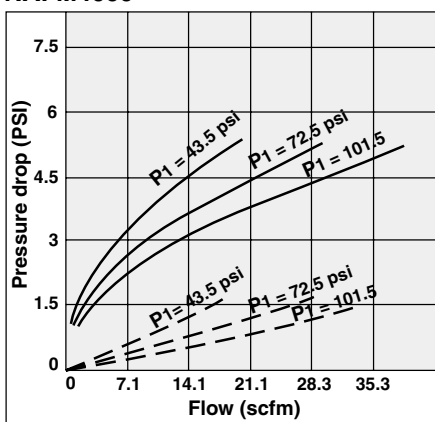
NAFM2000 — Initial state
— State saturated with oil



NAFM3000

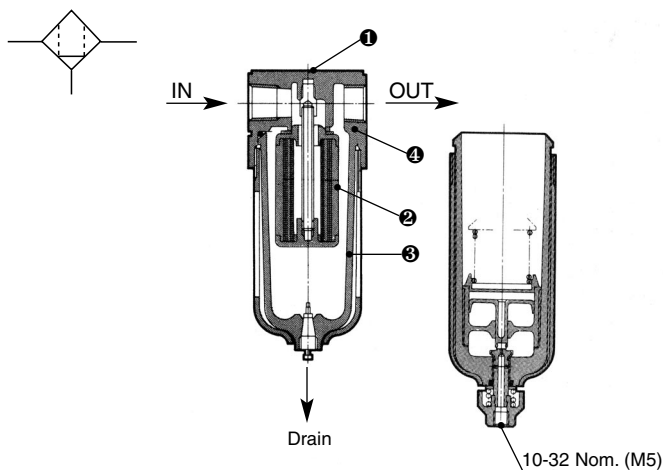


NAFM4000



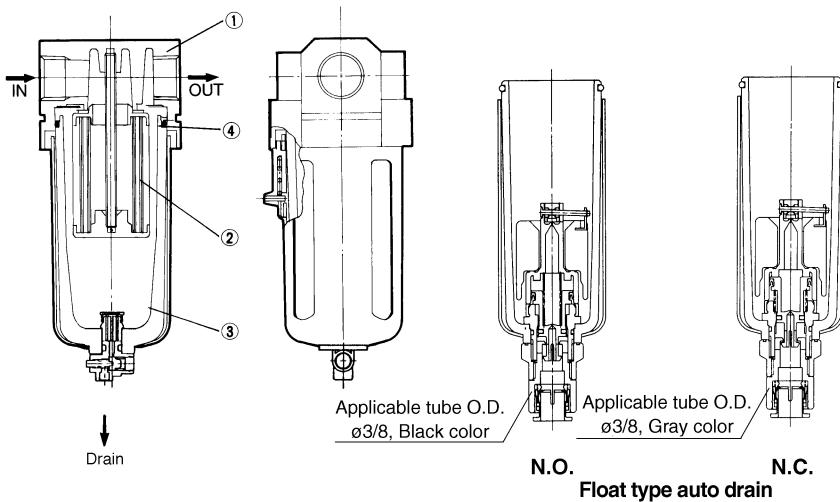
Construction/Parts List

Symbol NAFM2000



Differential pressure auto drain

NAFM3000•4000



N.O. N.C.
Float type auto drain

Main Parts

No.	Name	Material		Note
		NAFM2000	NAFM3000, NAFM4000, 4000-N06	
①	Body	Zinc die casting	Aluminum die casting	Platinum silver painting

Component Parts List

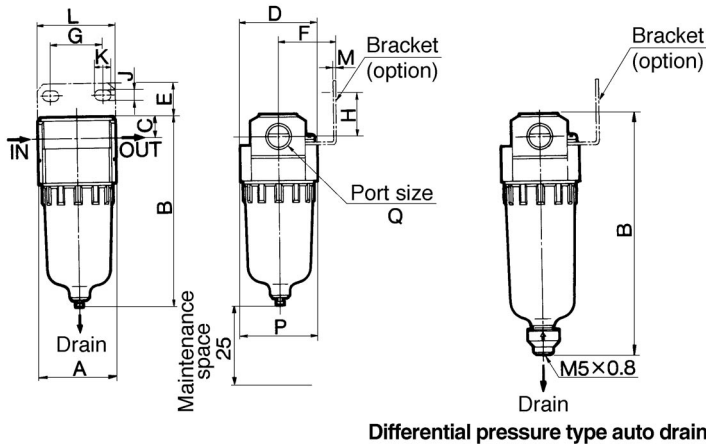
No.	Parts Name	Material	Part No.		
			NAFM2000	NAFM3000	NAFM4000, NAFM4000-N06
②	Element ass'y	—	630611	630617	630623
③	Bowl ass'y	Polycarbonate	NC200F-C	NC300F	NC400F
④	O-ring	NBR	11297	111512	111636

*Bowl assemblies of NAFM3000•4000 are fitted with bowl guard (SPCE).

Dimensions

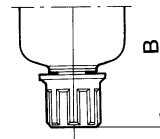
NAFM 2000, 3000, 4000,

NAFM2000

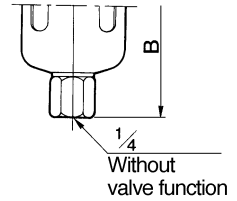


Option

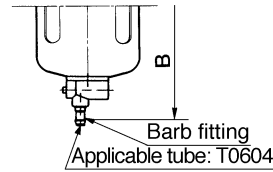
Metal bowl



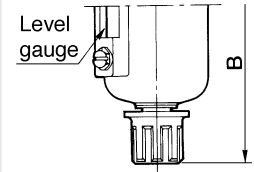
Drain guide



Drain cock/Barb fitting

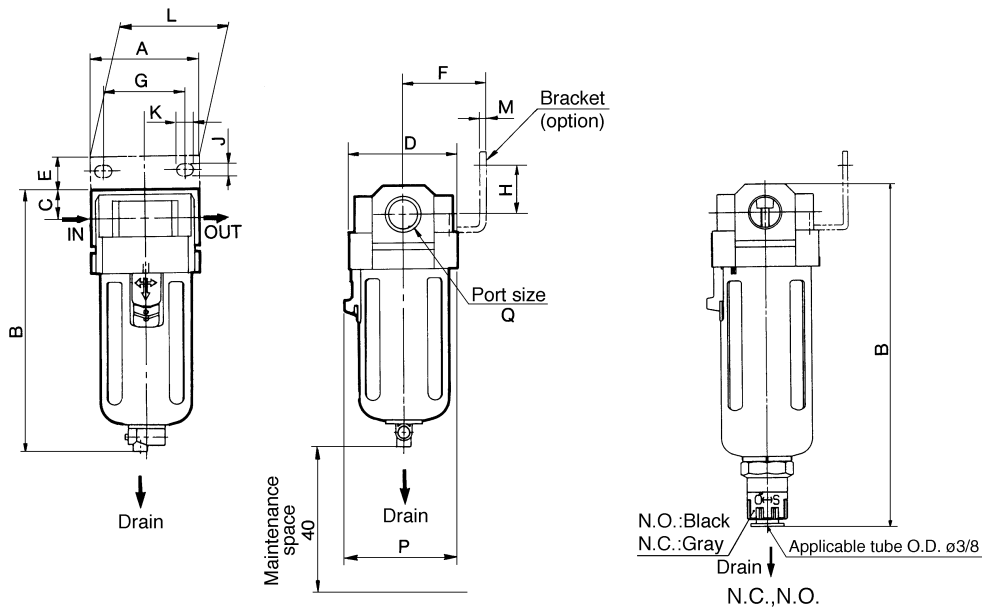


Level gauge



Model	Barb fitting	Drain guide	Metal bowl	Metal bowl with level gauge
	B	B	B	B
NAFM2000	—	—	3.84 (97.5)	—
NAFM3000	5.41 (137.5)	5.31 (135)	5.59 (142)	6.38 (162)
NAFM4000	6.83 (173.5)	6.73 (171)	7.01 (178)	7.80 (198)
NAFM4000-06	6.99 (177.5)	6.89 (175)	7.17 (182)	7.95 (202)

NAFM3000•4000



Float type auto-drain

Inch (mm)

Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	P	With auto drain	
															Differential pressure	
															B	B
NAFM2000	1/8 • 1/4	1.57 (40)	3.84 (97.5)	.43 (11)	1.57 (40)	.67 (17)	1.18 (30)	1.06 (27)	.87 (22)	.21 (5.4)	.33 (8.4)	1.57 (40)	.09 (2.3)	1.57 (40)	—	4.74 (120.5)
NAFM3000	1/4 • 3/8	2.09 (53)	5.08 (129)	.55 (14)	2.09 (53)	.63 (16)	1.61 (41)	1.57 (40)	0.91 (23)	0.26 (6.5)	0.31 (8)	2.09 (53)	0.09 (2.3)	2.20 (56)	6.69 (170)	—
NAFM4000	1/4 • 3/8 • 1/2	2.76 (70)	6.50 (165)	.71 (18)	2.76 (70)	0.67 (17)	1.97 (50)	2.13 (54)	1.02 (26)	0.33 (8.5)	0.41 (10.5)	2.76 (70)	0.09 (2.3)	2.87 (73)	8.11 (206)	—
NAFM4000-N06	3/4	2.95 (75)	6.65 (169)	0.79 (20)	2.76 (70)	0.55 (14)	1.97 (50)	2.13 (54)	0.98 (25)	0.33 (8.5)	.41 (10.5)	2.76 (70)	0.09 (2.3)	2.87 (73)	8.27 (210)	—



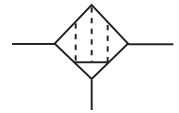
NAFD4000



NAFD3000



ANSI Symbol



Specifications

Model	NAFD2000	NAFD3000	NAFD4000	NAFD4000-N06
Port size NPT	1/8 • 1/4	1/4 • 3/8	1/4 • 3/8 • 1/2	3/4
Max. supply pressure psig (MPa)	220 (1.5)			
Max. operating pressure psig (MPa)	150 (1.0)			
Min. operating pressure psig (MPa)	7 (0.05)			
Flow capacity scfm*	4.2	8.5	22	22
Oil mist removal rate	More than 99.9%			
Filtration	0.01µm			
Bowl material	Polycarbonate			
Bowl capacity oz (cm³)	.27 (8)	.78 (23)	1.52 (45)	1.52 (45)
Weight lbs. (kgf)	0.42 (0.19)	0.64 (0.29)	1.19 (0.54)	1.28 (0.58)
Accessory (standard)	Bowl guard	●	●	●

* Conditions: Supply pressure — 100 psig.

Accessories (Optional)

Type	Part No.			
	NAFD2000	NAFD3000	NAFD4000	NAFD4000-N06
Bracket	B240A	B340A	B440A	B540A
Float auto drain* (N.O.)	—	NAD43	NAD44	NAD44
Float auto drain* (N.C.)	—	NAD53	NAD54	NAD54
Differential pressure auto drain	NAD62-C	—	—	—

* Min. operating pressure: N.O. - 15 psig, N.C. - 22 psig

Precautions

Installation

- ① Flush piping before installation.

Atmosphere

- ① Polycarbonate bowls may be damaged and possibly fail if exposed to synthetic oils, thinner solvents, trichlorethylene, kerosene or other aromatic hydrocarbons. When used in above atmospheres, please use a metal bowl.

Auto Drain

- ① Float type (Normally open) drain line should be 5/16 in. (8mm) or more and should be less than 16.5 ft. (5m). Be sure not to have any upward turns in the drain line which would prevent drainage.
- ② Unsuitable for flow below 3.5scfm (100N/min).
- ③ Min. operating pressure 15psi (0.1MPa).

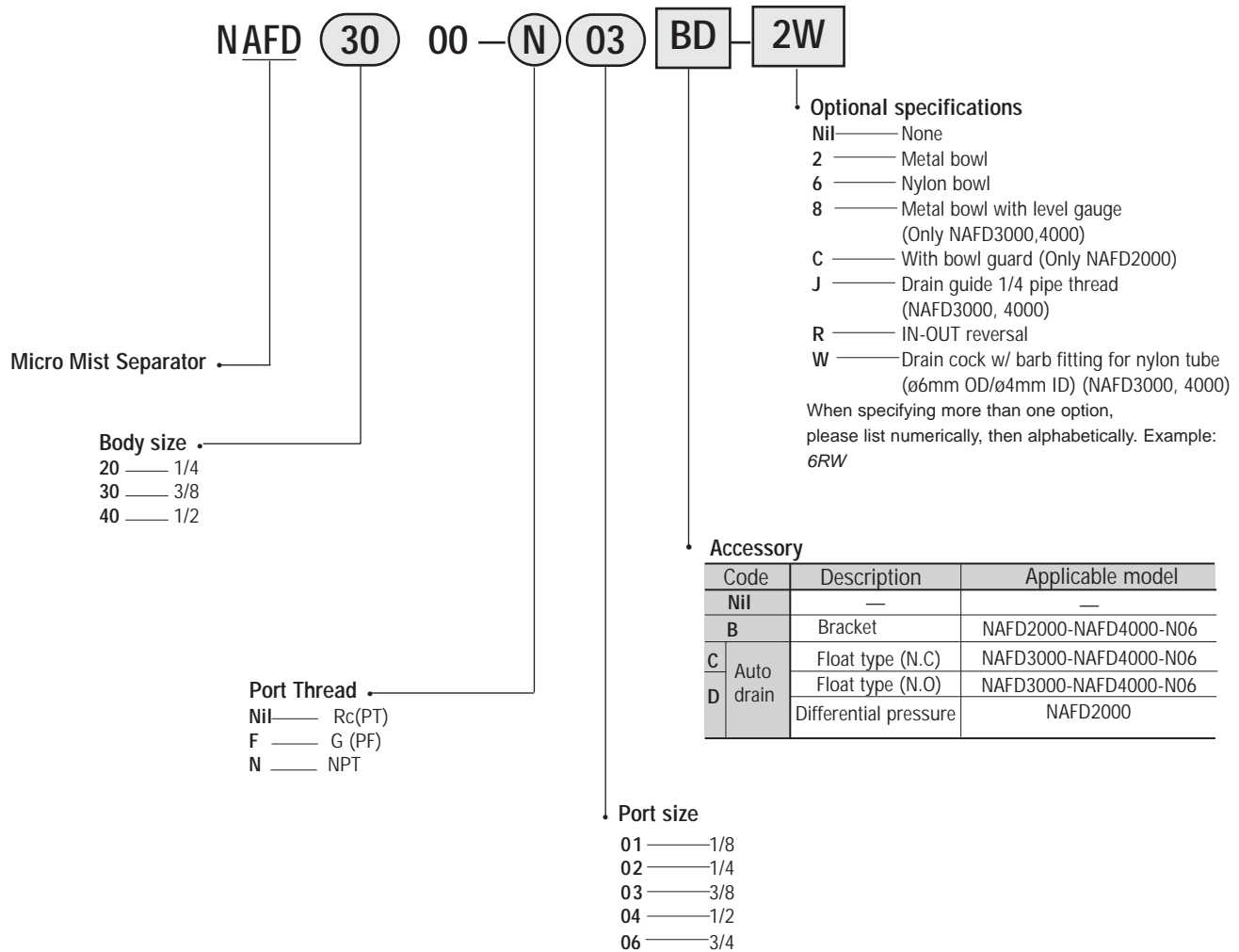
Differential type

- ① Min. operating pressure 15psi (0.1MPa).
- ② Soft nylon tube of more than 3/32 in. (2.5mm) is recommended for drain piping. The overall length should be less than 16.5 ft. (5m). Be sure not to have any upward turns in the piping.
- ③ Install vertically.

Maintenance

- ① Filter element to be changes after 1 year or when a pressure drop of 15psi (0.1MPa) is reached.

How To Order
NAFD 2000, 3000, 4000



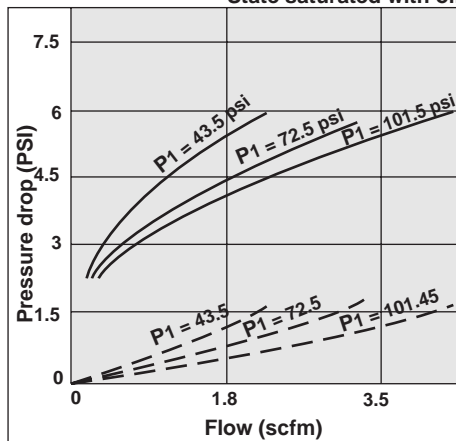
- ▼ Combination
- No Combination
- Refer to "How to order"

Accessories and Combination Table

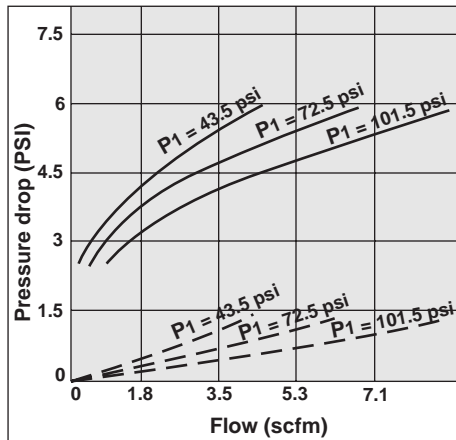
Accessory	Suffix	D	D	C	Applicable model									
					2	6	8	C	J	R	W	NAFD2000	NAFD3000	NAFD4000 NAFD6000
Differential pressure auto drain	D				▼	▼		●		▼		▼		
Float auto drain (N.O.)	D				▼	▼	●			▼			▼	▼
Float auto drain (N.C.)	C				▼	▼	●			▼			▼	▼
Metal bowl	-2	▼	▼	▼					●	▼		▼	▼	▼
Nylon bowl	-6	▼	▼	▼				●	●	▼	●	▼	▼	▼
Metal bowl with level gauge	-8		▼	▼					●	▼			▼	▼
With bowl guard	-C	▼				▼				▼		▼		
Drain guide (1/4)	-J				▼	▼	●			▼			▼	▼
In-Out reversal	-R	▼	▼	▼	▼	▼	●	●	●		●	▼	▼	▼
Drain cock, with barb fitting	-W					▼				▼			▼	▼

Flow Characteristics

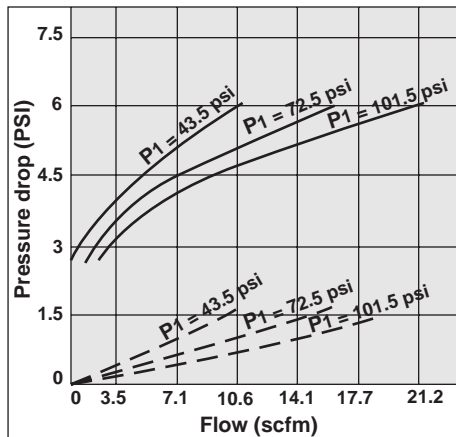
NAFD2000 — Initial state
— State saturated with oil



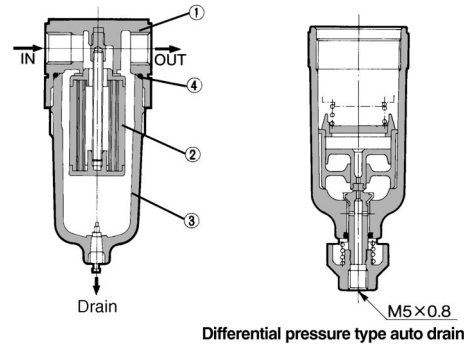
NAFD3000



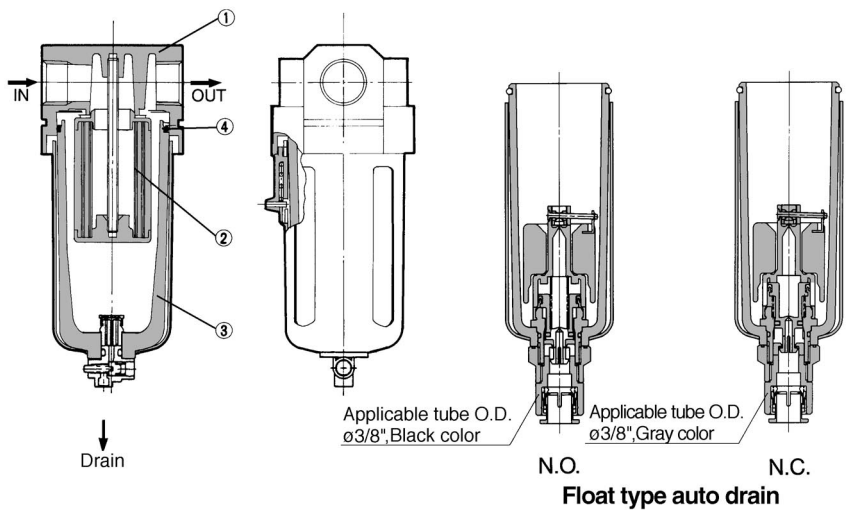
NAFD4000



Construction/Parts List



NAFD3000•4000



Main Parts

No.	Name	Material		Note
		NAFD2000	NAFD3000•NAFD4000,4000-N06	
①	Body	Zinc die casting	Aluminum die casting	Platinum silver painting

Component Parts List

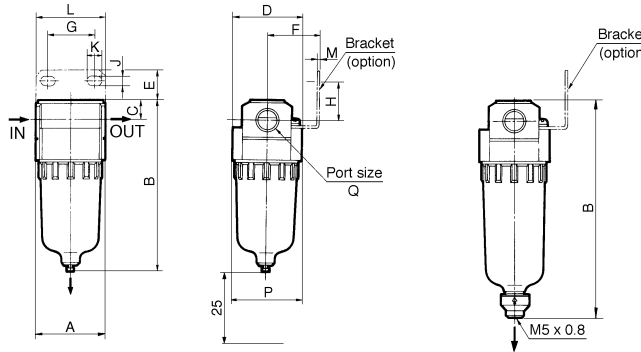
No.	Description	Material	Part No.		
			NAFD2000	NAFD3000	NAFD4000•NAFD4000-N06
②	Element ass'y	—	63092	63093	63094
⑤	Bowl ass'y	Polycarbonate	NC200F-C	NC300F	NC400F
④	O-ring	NBR	11297	111512	111636

*Bowl assemblies of NAFD3000 and NAFD4000 are fitted with bowl guard (SPCE).

Dimensions

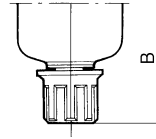
NAFD 2000, 3000, 4000

NAFD2000

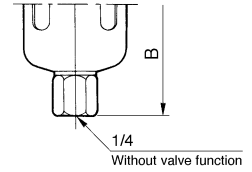


Option

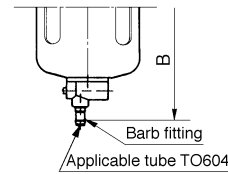
Metal bowl



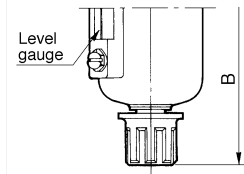
Drain guide



Drain cock/Barb fitting

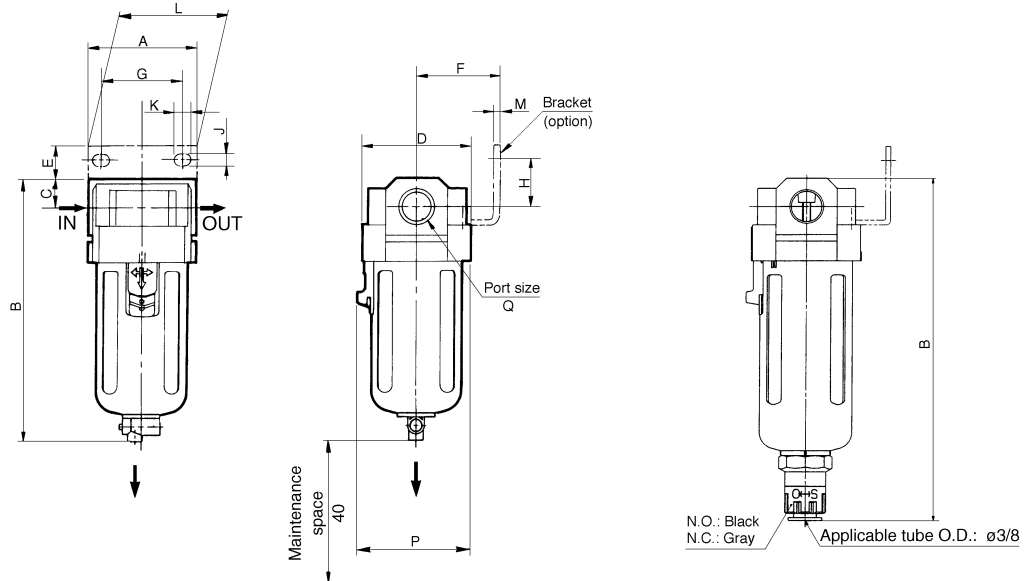


Level gauge



Model	Barb fitting	Drain guide	Metal bowl	Metal bowl with level gauge
	B	B	B	B
NAFD2000	—	—	3.84 (97.5)	—
NAFD3000	5.41 (137.5)	5.31 (135)	5.59 (142)	6.38 (162)
NAFD4000	6.83 (173.5)	6.73 (171)	7.01 (178)	7.80 (198)
NAFD4000-06	6.99 (177.5)	6.89 (175)	7.17 (182)	7.95 (202)

NAFD3000•4000

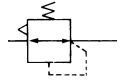


Inch (Millimeters)

Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	P	With auto drain	
															Float	Differential pressure
															B	B
NAFD2000	1/8 • 1/4	1.57 (40)	3.84 (97.5)	.43 (11)	1.57 (40)	.67 (17)	1.18 (30)	1.06 (27)	.87 (22)	.21 (5.4)	.33 (8.4)	1.57 (40)	.09 (2.3)	1.57 (40)	—	4.74 (120.5)
NAFD3000	1/4 • 3/8	2.09 (53)	5.08 (129)	.55 (14)	2.09 (53)	.63 (16)	1.61 (41)	1.57 (40)	.91 (23)	.26 (6.5)	.31 (8)	2.09 (53)	.09 (2.3)	2.20 (56)	6.69 (170)	—
NAFD4000	1/4 • 3/8 • 1/2	2.76 (70)	6.50 (165)	.71 (18)	2.76 (70)	.67 (17)	1.97 (50)	2.13 (54)	1.02 (26)	.33 (8.5)	.41 (10.5)	2.76 (70)	.09 (2.3)	2.87 (73)	8.11 (206)	—
NAFD4000-N06	3/4	2.95 (75)	6.65 (169)	.79 (20)	2.76 (70)	.55 (14)	1.97 (50)	2.13 (54)	.98 (25)	.33 (8.5)	.41 (10.5)	2.76 (70)	0.9 (2.3)	2.87 (73)	8.27 (210)	—



ANSI Symbol



- Locking adjustment knob prevents accidental setting changes
- Various pressure range settings accommodate most applications
- Modular design connects with other SMC air preparation equipment



NAR4000-N04 NAR3000-N03BG NAR2500-N03 NAR2000-N02BG

Specifications

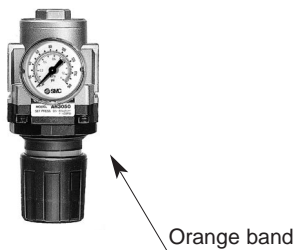
Model	NAR1000	NAR2000	NAR2500	NAR3000	NAR4000	NAR4000-N06	NAR5000	NAR6000
Port Size NPT	10-32Nom. (M5)	1/8 • 1/4	1/4 • 3/8	1/4 • 3/8	1/4• 3/8• 1/2	3/4	3/4 • 1	1
Proof pressure psig (MPa)	220 (1.5)							
Max oper. pressure psig (MPa)	150 (1.0)							
Regulating range psig (MPa)	7~100 (0.05~0.7)	7~120 (0.05 ~ 0.85)						
Port size for pressure gauge	1/16 Rc(PT)	1/8 NPT	1/8 NPT	1/8 NPT	1/4 NPT	1/4 NPT	1/4 NPT	1/4 NPT
Ambient and media temp.	23° ~140° F (-5° ~ 60° C)							
Construction	Relieving style							
Weight lbs. (kgf)	0.18 (0.08)	0.60 (0.27)	0.60 (0.27)	0.90 (0.41)	1.85 (0.84)	2.07 (0.94)	2.62 (1.19)	3.42 (1.55)

Accessories

Type	Part No.							
	NAR1000	NAR2000	NAR2500	NAR3000	NAR4000	NAR4000-N06	NAR5000	NAR6000
Bracket	B120	B220	B220	B320	B420	B420	B640A	B640A
Pressure gauge	G27-P10-R1	K40A-MP1.0-N01M	K40A-MP1.0-N01M	K40A-MP1.0-N01M	K50A-MP1.0-N02M	K50A-MP1.0-N02M	K50A-MP1.0-N02M	K50A-MP1.0-N02M

Setting

- The adjustment knob is of the locking type.
Pull the knob away from the body until an orange band is visible. Adjust as necessary and push the knob back into its locked position to prevent accidental setting change.



- Turning the adjustment knob clockwise increases the pressure and turning the knob counter clockwise will reduce the pressure.
- Check supply pressure before adjusting pressure.

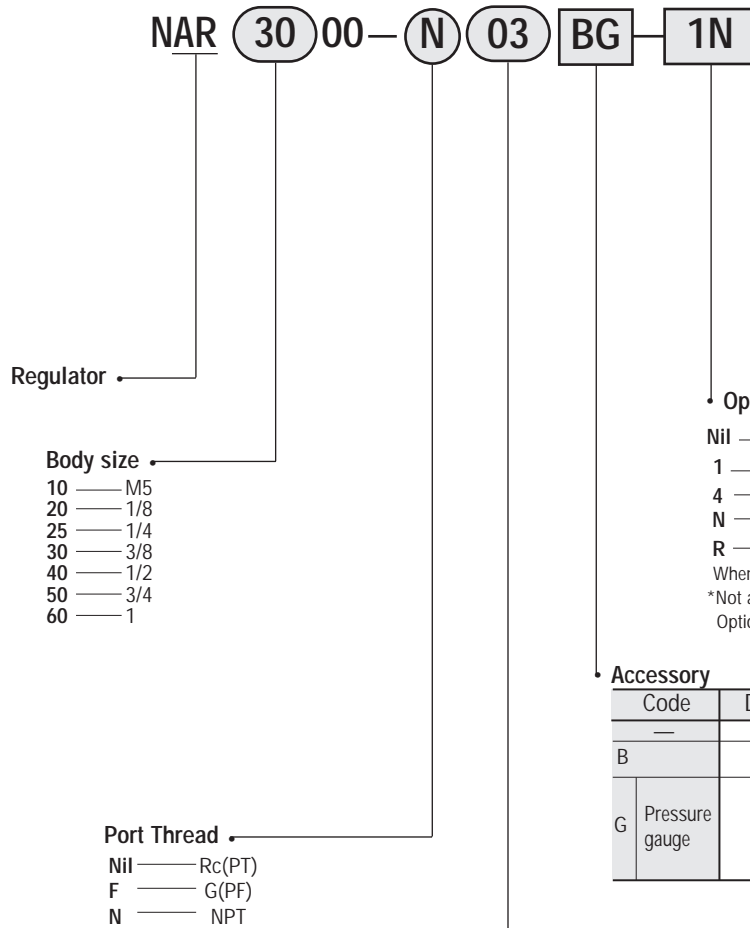
Precautions

<Installation>

Flush piping before installation.
Install with at least 2.5 in. (60mm) of free space below the unit to allow easy access.

How To Order

NAR 1000, 2000, 2500, 3000, 4000, 5000, 6000



Optional specifications

Nil — None

1 — 3-30 psig (0.02-0.2 MPa) setting*

4 — 3-60 psig (0.02-0.4 MPa) setting*

N — Non-relieving

R — IN-OUT reversal (Right → Left)

When specifying more than one option, please list numerically, then alphabetically.

*Not a maximum setting. Option 1 is more precise in the range of 3-30 psig.

Option 4 is more precise in the range of 3-60 psig.

Accessory

Code	Description	Applicable model
B	Bracket	NAR1000-NAR6000
G	Pressure gauge	NAR1000-NAR6000

Port size

M5-10-32 Nom. (M5)

01 — 1/8

02 — 1/4

03 — 3/8

04 — 1/2

06 — 3/4

10 — 1

Accessories and Combinations

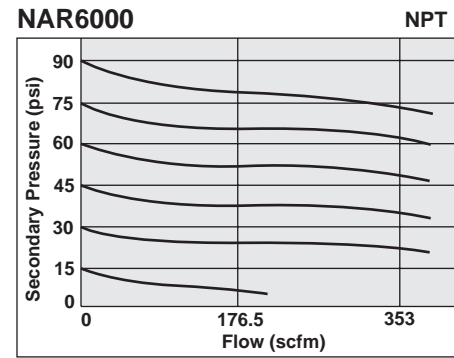
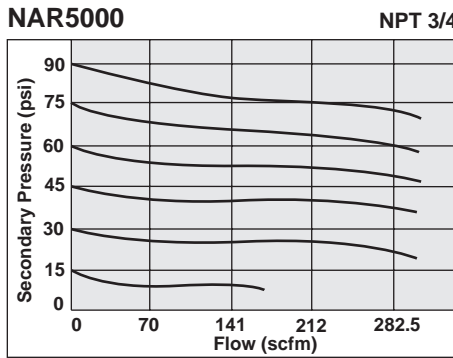
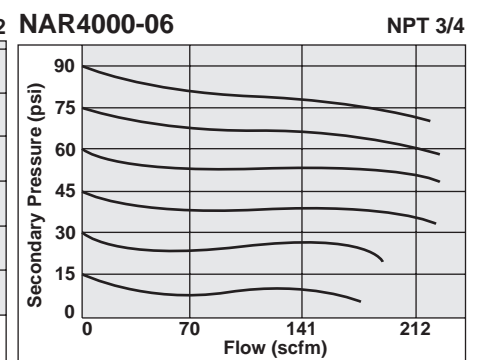
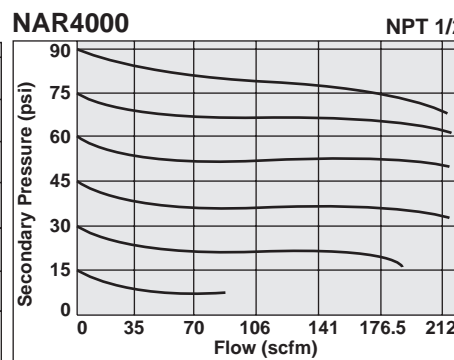
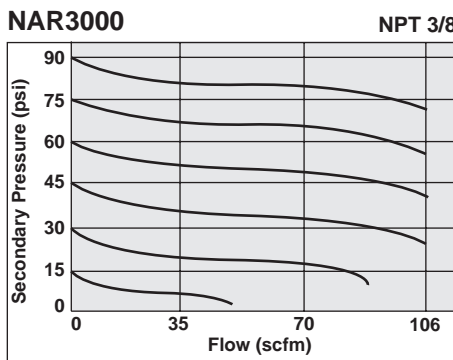
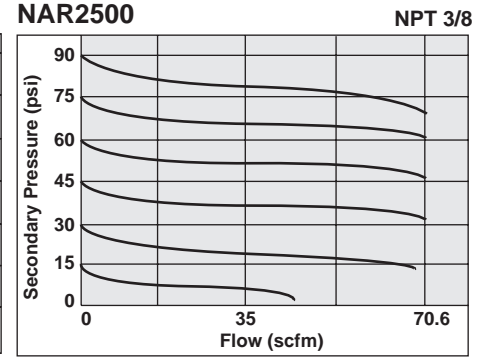
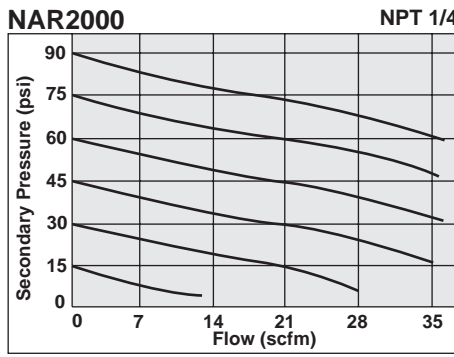
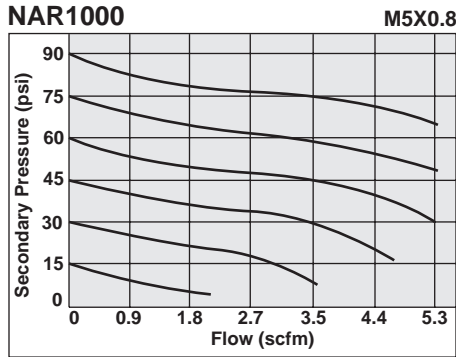
▼ Combination

☐ No Combination

Accessory	Suffix	1	4	N	R	Part Number			
						NAR1000	NAR2000	NAR2500	NAR3000-NAR6000
3-30 psig (0.02-0.2 MPa)	1	☐	▼	▼	▼	▼	▼	▼	▼
3-60 psig (0.02-0.4 MPa)	4	▼	☐	▼	▼	▼	▼	▼	▼
Non-relieving	N	▼	▼	☐	▼	▼	▼	▼	▼
In-Out Reversal	R	▼	▼	▼	☐	▼	▼	▼	▼

Flow Characteristics

Condition: Supply pressure—100 psig



Pressure Characteristics

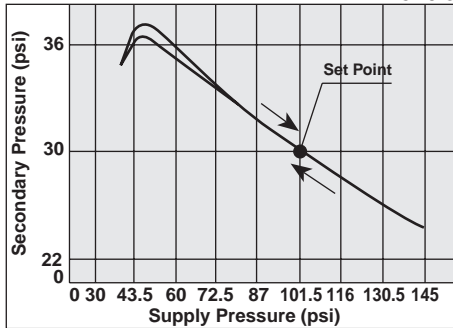
NAR 1000, 2000, 2500, 3000, 4000, 5000, 6000

Condition: Supply pressure—100 psig
Secondary pressure—30 psig, Flow rate—7 SCFM

Pressure Characteristics

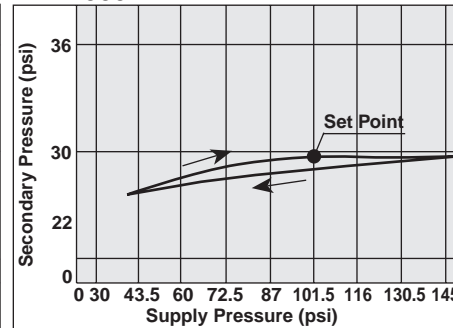
NAR1000

M5X0.8



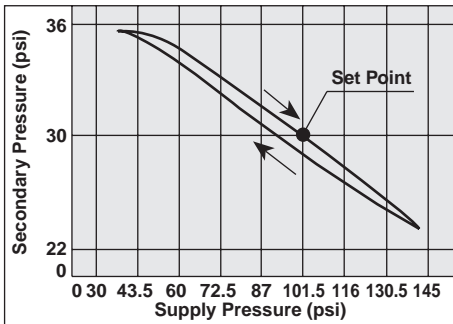
NAR4000

NPT 1/2



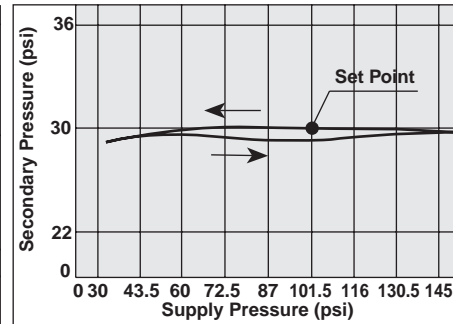
NAR2000

NPT 1/4



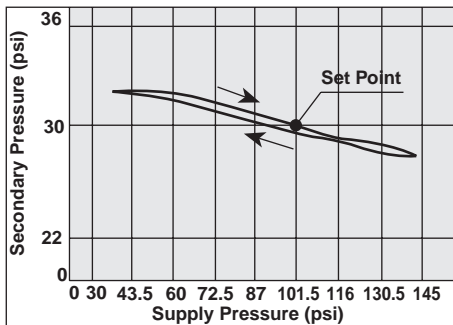
NAR4000-06

NPT 3/4



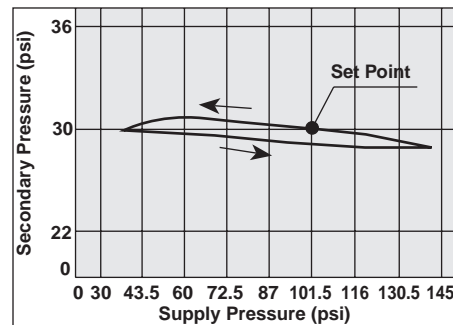
NAR2500

NPT 3/8



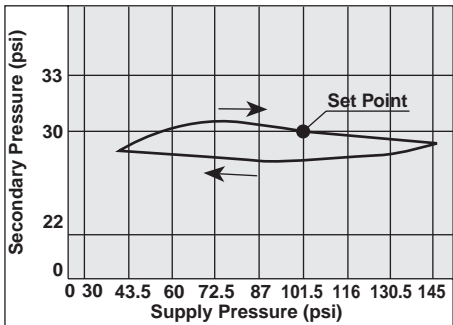
NAR5000

NPT 3/4



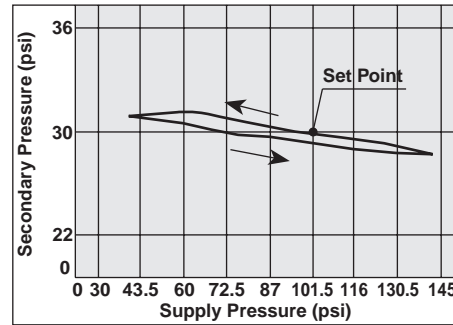
NAR3000

NPT 3/8



NAR6000

NPT 1



Precautions

Read carefully before handling. Refer to the safety instructions and precautions section for the products mentioned in this catalog.


Selection

- For NAC3030, 4030, NAC3040, 4040 with float type auto drain (N.O.), use 2.2kW {200 /min (ANR)} or larger compressor. Because two auto drains are used and 200 /min air is needed, it might cause a malfunction with a compressor weaker than the required ability.

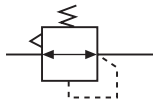
Installation

- Flush piping before installation.
- Use of piping adapters will ease installation.
- The regulator may be installed with the adjustment knob up or down. If using the pressure switch (IS1000M) and/or the T-type spacer, the regulator knob must face down.
- The NAKM check valve is designed to be used between the regulator and the lubricator when it is necessary to prevent the possibility of lubricant flowing back into a non-lubricated secondary supply line.
- When mounting residual pressure release 3-port valve upstream of a lubricator, use check valve (series NAKM) to prevent reverse flow of oil.
- Pressure switch and T-type interface cannot be mounted to OUT side of residual pressure release 3-port valve.

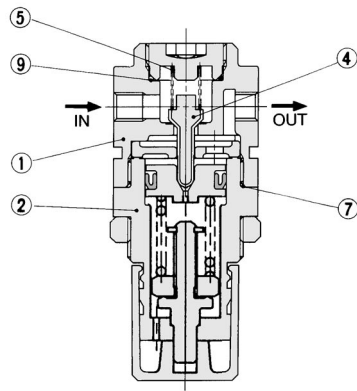
Piping

Warning: When mounting check valve, make sure of the position of  mark which indicates air flow direction.

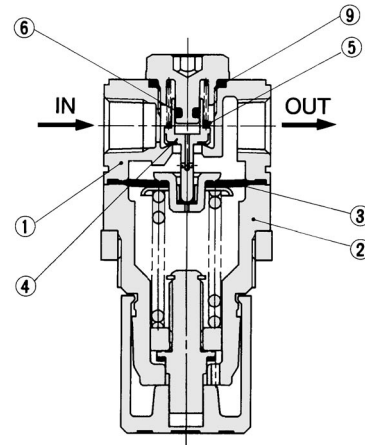
ANSI
Symbol



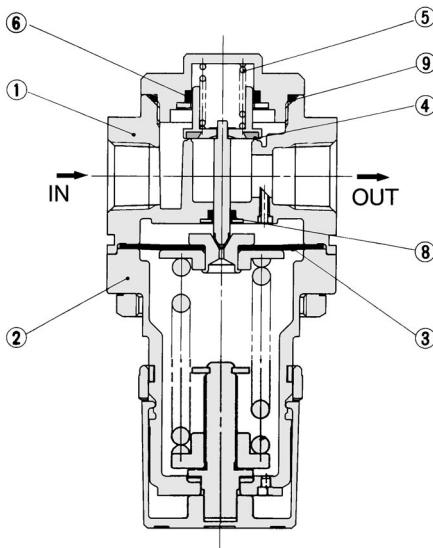
NAR1000



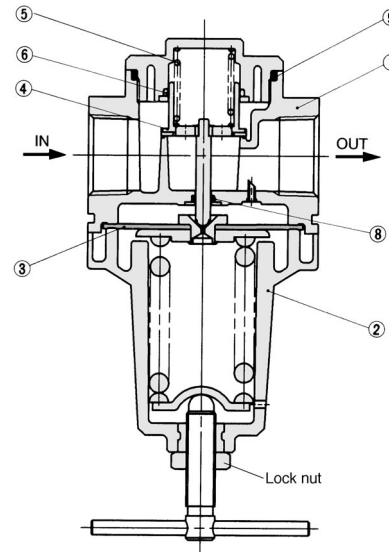
NAR2000



NAR2500•3000•4000•5000



NAR6000



Main Parts

No.	Name	Material			Note
		NAR1000• 2000	NAR2500• 3000	NAR4000~6000	
①	Body	Zinc die casting	Aluminum die casting		Platinum silver painting
②	Bonnet	Polyacetal		Zinc die casting	Black painting

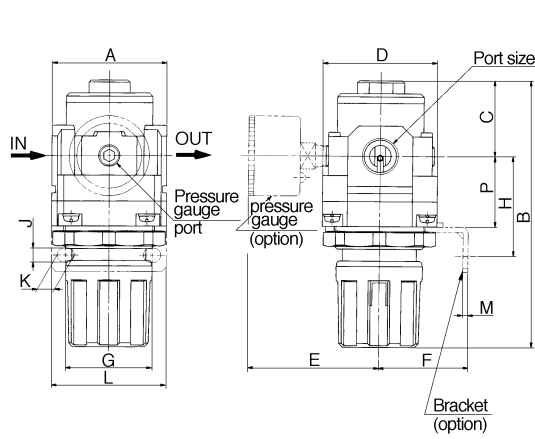
Component Parts/Packing List

No.	Parts Name	Material	Part No.							
			NAR1000	NAR2000	NAR2500	NAR3000	NAR4000	NAR4000-N06	NAR5000	NAR6000
③	Diaphragm ass'y	NBR	—	131445A	1349161A	131515A	131614A	131614A	131614A	131815A
④	Valve ass'y	Brass•NBR	134819-30	1349160-30	13144A	13154A	13164A	1316102A	131750A	13184A
⑤	Valve spring	stainless steel	134824	1349158	13143	131558	131613	131613	13174	131810
⑥	Valve O-ring	NBR	—	1349247	P11	P14	131643	131643	131710	131811
⑦	Piston mini Y packing	NBR	MYN-10A	—	—	—	—	—	—	—
⑧	O-ring	NBR	—	—	P3	P5	P5	P5	P5	P6
⑨	O-ring	NBR	131336	P14	P22	131545	131647	131647	G50	G55

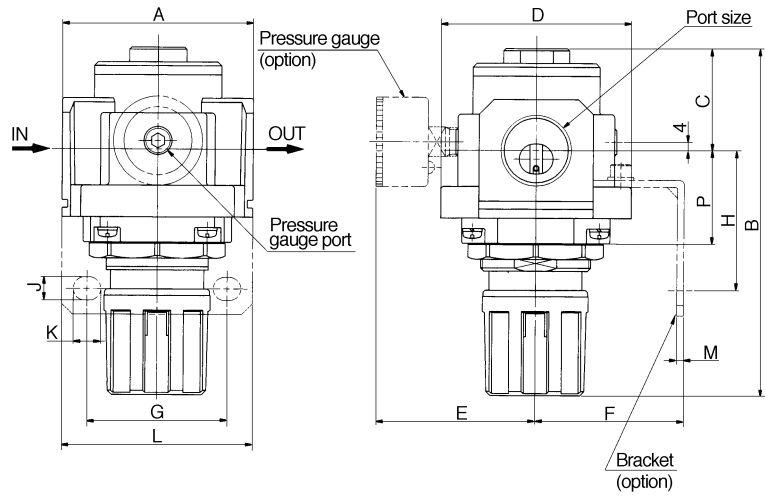
Dimensions

NAR 1000, 2000, 2500, 3000, 4000, 5000, 6000

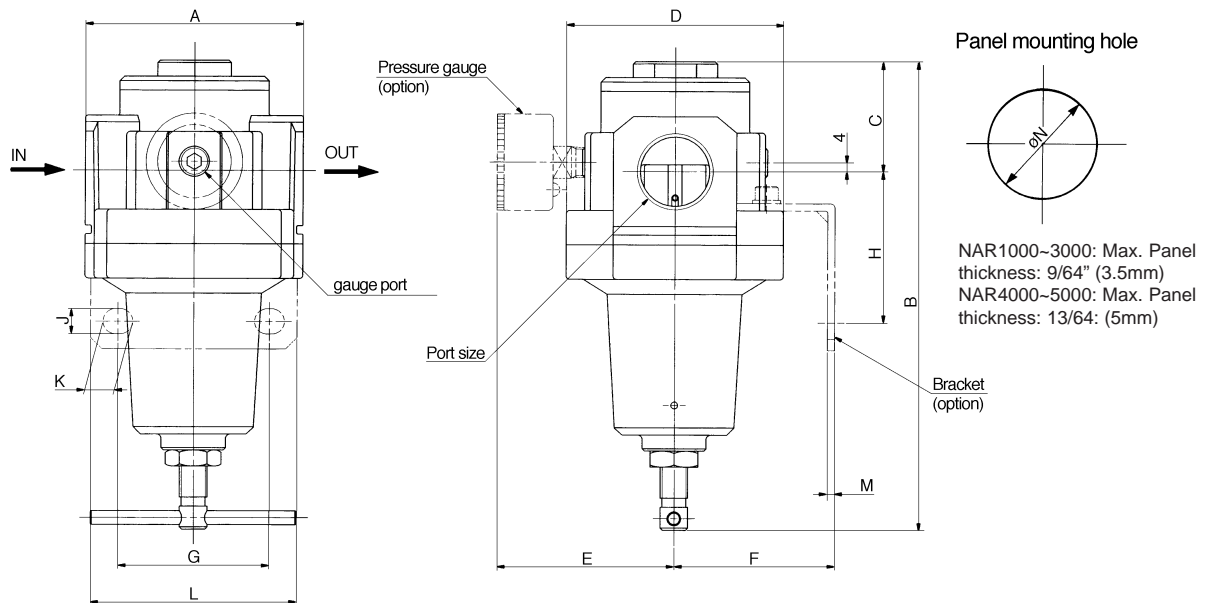
NAR1000-4000



NAR5000



NAR6000



Model	Port Size	A	B	C	D	E	With Bracket							N	P
							F	G	H	J	K	L	M		
NAR1000	10-32 Nom. (M5)	.98 (25)	2.42 (61.5)	.43 (11)	.98 (25)	1.02 (26)	.98 (25)	1.10 (28)	1.18 (30)	.18 (4.5)	.26 (6.5)	1.57 (40)	0.8 (2)	.81 (20.5)	.75 (19)
NAR2000	1/8 • 1/4	1.57 (40)	3.74 (95)	.67 (17)	1.57 (40)	2.28 (58)	1.18 (30)	1.34 (34)	1.73 (44)	.21 (5.4)	.61 (15.4)	2.17 (55)	.09 (2.3)	1.32 (33.5)	.98 (25)
NAR2500	1/4 • 3/8	2.09 (53)	4.04 (102.5)	.98 (25)	1.89 (48)	2.44 (62)	1.18 (30)	1.34 (34)	1.73 (44)	.21 (5.4)	.61 (15.4)	2.17 (55)	.09 (2.3)	1.32 (33.5)	.98 (25)
NAR3000	1/4 • 3/8	2.09 (53)	5.02 (127.5)	1.38 (35)	2.09 (53)	2.44 (62)	1.61 (41)	1.57 (40)	1.81 (46)	.26 (6.5)	.31 (8)	2.09 (53)	.09 (2.3)	1.67 (42.5)	1.28 (32.5)
NAR4000	1/4 • 3/8 • 1/2	2.76 (70)	5.89 (149.5)	1.48 (37.5)	2.76 (70)	2.76 (70)	1.97 (50)	2.13 (54)	2.13 (54)	.33 (8.5)	.41 (10.5)	2.76 (70)	.09 (2.3)	2.07 (52.5)	1.42 (36)
NAR4000-N06	3/4	2.95 (75)	6.08 (154.5)	1.59 (40.5)	2.76 (70)	2.91 (74)	1.97 (50)	2.13 (54)	2.20 (56)	.33 (8.5)	.41 (10.5)	2.76 (70)	.09 (2.3)	2.07 (52.5)	1.50 (38)
NAR5000	3/4 • 1	3.54 (90)	6.61 (168)	1.89 (48)	3.54 (90)	3.15 (80)	2.76 (70)	2.60 (66)	2.59 (65.8)	.43 (11)	.51 (13)	3.54 (90)	.13 (3.2)	2.07 (52.5)	1.73 (44)
NAR6000	1	3.74 (95)	8.05 (204.5)	1.89 (48)	3.74 (95)	3.25 (82.5)	2.76 (70)	2.60 (66.6)	2.59 (65.8)	.43 (11)	.51 (13)	3.54 (90)	.13 (3.2)	—	—

Tamper Proof Regulator

- Secondary pressure is preset and cannot be changed or secondary pressure can be set/adjusted in the field with a special tool.

AR 2000 — 02BG — R — X33US .45 — .70

Regulator Family

Family	Description
AC	Air Combination
AP	Pressure Relief Valve
AR	Regulator
ARB	Interface Regulator
ARBF	Interface Regulator
ARP	Precision Regulator
ARX	2 MPa Regulator
AW	Filter Regulator
AWD	Micro Mist Separator Regulator
AWM	Mist Separator Regulator
SR	Stainless Steel Regulator

Set Pressure

Port Thread		Applicable Model	Tolerance +/- MPa (psi)
*RC(PT), G(PF)	**NPT		
***NIL	***NIL	All models listed below	-
.05 ~ .70	7 ~ 100	AP	0.02 (3)
see note 2	see note 2	ARB	-
see note 2	see note 2	ARBF	-
.01 ~ .30	1 ~ 40	ARP	0.003 (.5)
.05 ~ .70	7 ~ 100	AR111	0.007 (1)
.02 ~ .85	3 ~ 120	AC2000-5500 AR2000-5000. AW/AWD/AWM2000-4000	0.01 (1.5)
.02 ~ .70	3 ~ 100	AC/AR/AW1000	0.03 (3.5)
.02 ~ .70	3 ~ 100	SR3000	0.007 (1)
.05 ~ .85	7 ~ 120	ARX	0.03 (4.5)

Supply Pressure

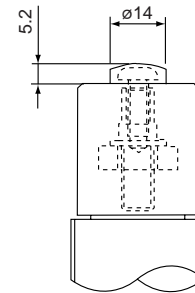
Port Thread		Applicable Model
*RC(PT), G(PF)	**NPT	
***NIL	***NIL	-
see note 3	see note 3	-
see note 2	see note 2	-
see note 2	see note 2	-
.02 ~ .80	2 ~ 115	-
.06 ~ 1.0	8 ~ 150	-
.03 ~ 1.0	4 ~ 150	-
.03 ~ 1.0	4 ~ 150	-
.06 ~ 2.0	8 ~ 290	-

Same as Standard

Tamper Proof Regulator

Note:

1. Dimensional changes from standard product are as shown.
2. Valve/subplate interface type regulators (ARB/ARBF) cannot be preset.
3. Since supply pressure equals set pressure for AP100, supply pressure indication is not required.



Adjustment tools for “—X33US” tamper proof regulator

Tool Description	Part Number
Bit, M5 spanner \with 1/4" hex shank	AR0000-00-X33US-1
Screwdriver, M5 spanner with nonremovable bit	AR0000-00-X33US-2

Retrofit kits for “—X33US” tamper proof regulator

Kit P/N	Applicable Model	Bill of Materials				
		P/N DESCRIPTION (QTY)				
KT-ARX20	ARX20	ARX20-00-X33US-1 HANDLE (1)	ARX20-00-X33US-2 ADJUST SCREW (1)	-	AR1000-00-X33US-3 TAMPER PROOF SCREW (1)	8-10B SCREW COVER (1)
KT-ARX21	ARX21	-	-	-	-	
KT-AR1000-X33US	AC/AR/AW/1000	AR1000-00-X33US-1 HANDLE (1)	AR1000-00-X33US-2 ADJUST SCREW (1)	131311 ADJUST NUT (1)	-	-
KT-AR2000-X33US	AC/AR/AW/AWD/AWM2000-2500	AR2000-00-X33US-1 HANDLE (1)	AR2000-00-X33US-2 ADJUST SCREW (1)	1349169 ADJUST NUT (1)	M5X0.8X12L TAMPER PROOF SCREW (1)	-
KT-AR3000-X33US	AC/AR/AW/AWD/AWM3000	AR3000-00-X33US-1 HANDLE (1)	AR3000-00-X33US-2 ADJUST SCREW (1)	131549 ADJUST NUT (1)	-	-
KT-AR4000-X33US	AC4000-5500 AR4000-5000 AW/AWD/AWM4000	AR4000-00-X33US-1 HANDLE (1)	AR4000-00-X33US-2 ADJUST SCREW (1)	131610 ADJUST NUT (1)	-	-
KT-ARP3000-X33US	ARP3000	ARP3000-00-X33US-1 HANDLE A (1)	ARP3000-00-X33US-2 ADJUST SCREW (1)	ARP3000-00-X33US-3 HANDLE B (1)	-	-
KT-ARBF3050-X33US	ARBF3050	ARBF3050-00-0-0-X33US-1 SCREW COVER SPACER (1)	ARBF3050-00-0-0-X33US-2 ADJUST SCREW (1)	-	-	-
KT-ARB110-1-X33US	ARB110-*1	-	-	-	-	-
KT-ARB110-2-X33US	ARB110-*2	ARBF3050-00-0-0-X33US-1 SCREW COVER SPACER (2)	ARBF3050-00-0-0-X33US-2 ADJUST SCREW (2)	-	M5X0.8X12L TAMPER PROOF SCREW (2)	8-10B SCREW COVER (2)
KT-AP100-X33US	AP100	AP100-00-X33US-1 SCREW COVER SPACER (1)	AP100-00-X33US-2 HANDLE RETAINING WASHER (1)	-	M5X0.8X12L TAMPER PROOF SCREW (1)	8-10B SCREW COVER (1)
KT-AR111-X33US	AR111	-	-	-	-	-
KT-SR3000-X33US	SR3000	-	-	-	-	-

Restricted Regulator

- Restricted secondary pressure range (ex. 35psi maximum output regardless of input).

AR 2000 — 02BG — R — X34US .45

Regulator Family

Family	Description
AC	Air Combination
AP	Pressure Control Valve
AR	Regulator
ARP	Precision Regulator
AW	Filter Regulator
AWD	Micro Mist Separator Regulator
AWM	Mist Separator Regulator

Pressure Setting

Port Thread		Applicable Model
RC(PT), G(PF)	NPT	
.01 ~ .30	1 ~ 40	ARP
.02 ~ .70	3 ~ 100	AR111
.02 ~ .85	3 ~ 120	AC,AR,AW,AWD,AWM
.05 ~ .70	7 ~ 100	AP

Same as Standard

Tamper Proof Regulator

Note: No Dimensional changes from standard product.

- Quickly exhausts air pressure on secondary side
- Internal check valve allows for reverse flow for precise force control of extending and retracting cylinder applications
- Modular design connects with other SMC air preparation equipment



NAR4060



NAR3060



NAR2560

Specifications

Model	NAR1000	NAR2060	NAR2560	NAR3060	NAR4060	NAR4060-N06	NAR5060	NAR6060
Port size	10-32 Nom (M5)	1/8 • 1/4	1/4 • 3/8	1/4 • 3/8	1/4 • 3/8 • 1/2	3/4	3/4 • 1	1
Proof pressure psig (MPa)	220 (1.5)							
Max oper. pressure psig (MPa)	150 (1.0)							
Regulating range pres. psig (MPa)	7~100 (0.05~0.7)		15~120 (0.1~0.85)					
(OUT → IN) Cv	0.15	1/8: 0.33 1/4: 0.36	1/4: 1.00 3/8: 1.11 0.36	1/4: 1.44 3/8: 1.72	1/4: 1.88 3/8: 3.11 1/2: 4.66 0.36	5.11	3/4: 7.05 1: 7.28	11.28
Gauge port size	1/16 Rc(PT)	1/8 NPT	1/8 NPT	1/8 NPT	1/4 NPT	1/4 NPT	1/4 NPT	1/4 NPT
Ambient and media temperature	23° ~ 140° F (-5 ~ 60° C)							
Construction	Relieving style							
Weight lbs. (Kgf)	0.18 (0.08)	0.57 (0.26)	0.57 (0.26)	0.86 (0.39)	1.85 (0.84)	2.07 (0.94)	2.62 (1.19)	3.42 (1.55)

Accessories (Optional)

Name	Part No.							
	NAR1000	NAR2060	NAR2560	NAR3060	NAR4060	NAR4060-N06	NAR5060	NAR6060
Bracket	B120	B220	B220	B320	B420	B420	B640A	B640A
Gauge	G27-P10-R1	K40A-MP1.0-N01M			K50A-MP1.0-N02M			

How To Order

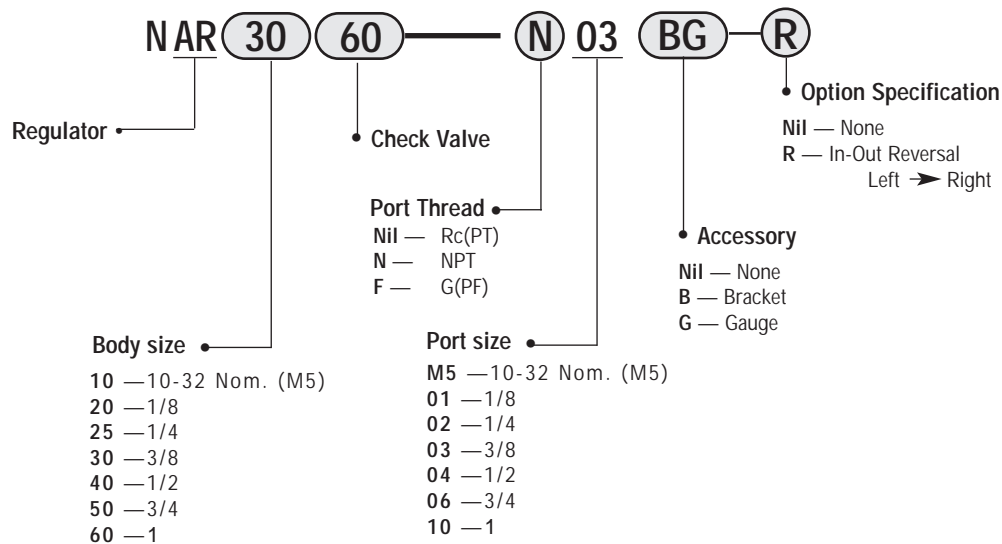


Figure 1

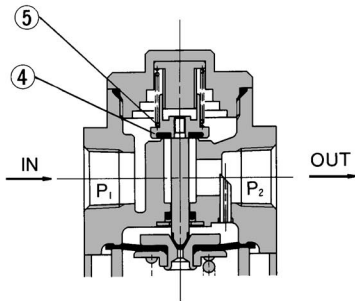
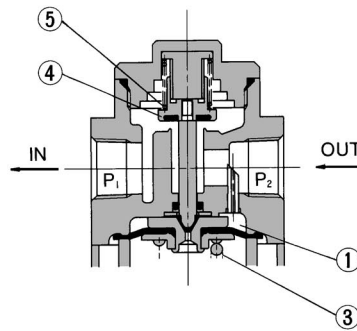


Figure 2



When primary pressure (P_1) is higher than the secondary pressure (P_2), the operation follows that of a standard regulator (see Figure "1"). If P_1 is exhausted by shifting a valve, P_1 is reduced and the pressure under the regulator valve (4) will vent to P_1 . Therefore, the force pushing on the regulator valve (4) will be reduced to only the valve spring (5) which opens the passage from P_2 to P_1 . This slowly decreases the pressure in the lower chamber of the diaphragm (1) and the force of the adjustment spring (3) exerts a force directly to the valve stem. This completely opens the flow path from P_2 to P_1 (see Figure "2") and quickly exhausts the pressure from P_2 to P_1 .

Figure 1

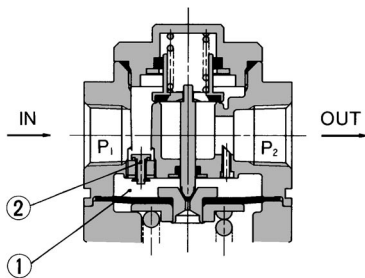


Figure 2

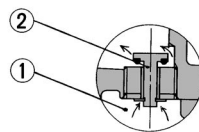
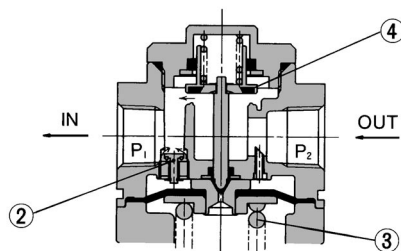


Figure 3



When primary pressure (P_1) is higher than the secondary pressure (P_2), the internal check valve (2) will seat, and the operation follows that of a standard regulator (see Figure "1"). If P_1 is exhausted by shifting a valve, the internal check valve (2) will crack open (P_1 is less than the pressure in the lower diaphragm chamber (1)). See Figure "2". The force of the adjustment spring (3) pushes directly on the valve stem and opens the Flow path from P_2 to P_1 completely (see Figure "3") and quickly exhausts the pressure from P_2 to P_1 .

Setting

- 1 The adjustment knob is the locking type. Pull the knob away from the body until the orange band is visible. Adjust as necessary and push the knob back into its locked position to prevent accidental setting change.



- 2 Turning the adjustment knob clockwise increases the pressure and turning the knob counter clockwise will reduce the pressure. Check supply pressure before adjusting pressure.

Precautions

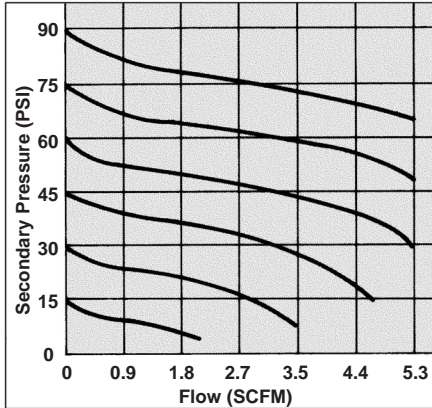
<Installation>

- 1 Air flush piping before installation.
- 2 Install with at least 2.5 in. of free space below the unit to allow easy access.

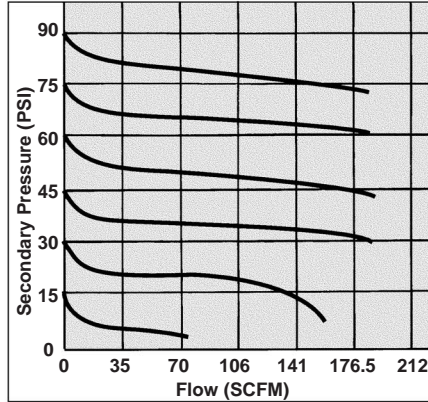
Flow Characteristics

Conditions: Supply pressure 100 psi

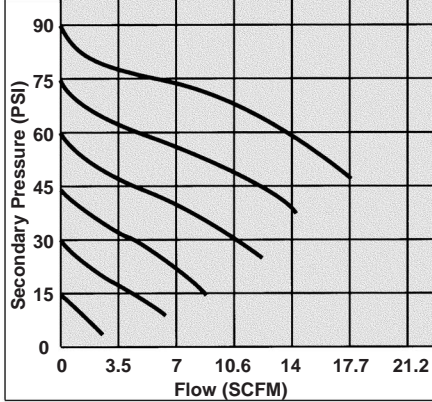
NAR1000 M5



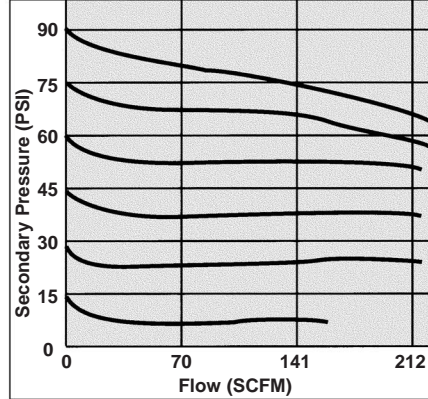
NAR4060 NPT 1/2



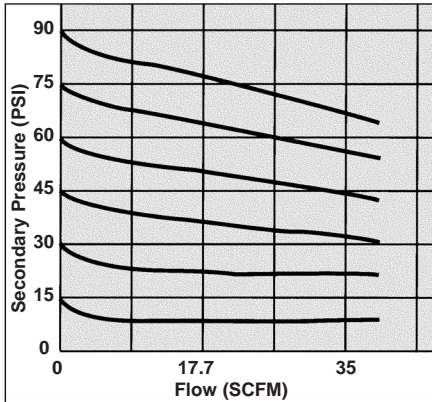
NAR2060 NPT 1/4



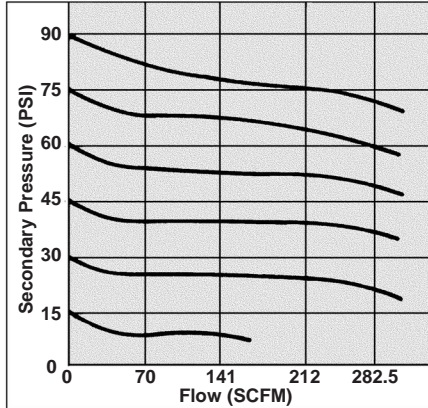
NAR4060-06 NPT 3/4



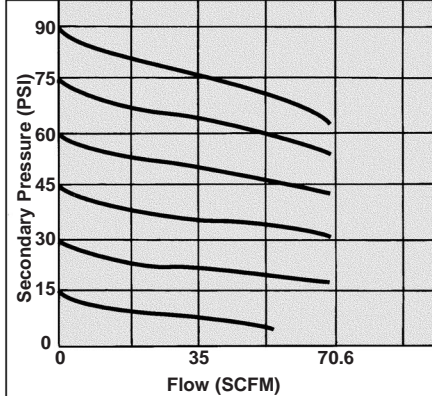
NAR2560 NPT 3/8



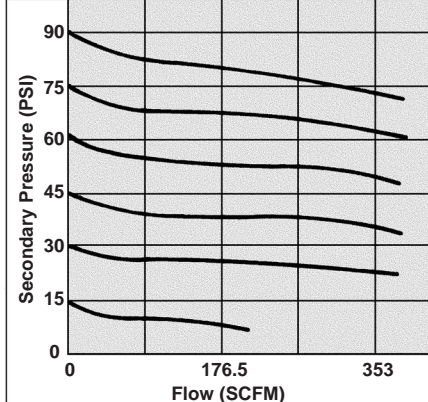
NAR5060 NPT 3/4



NAR2060 NPT 3/8



NAR4060-06 NPT 1



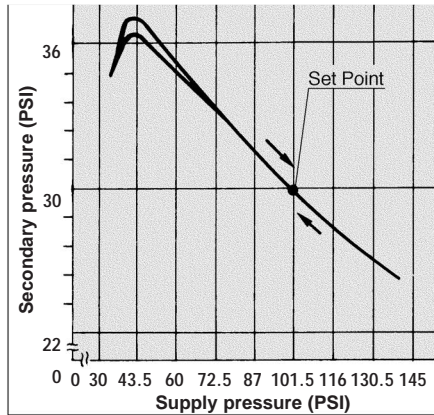
Pressure Characteristics

NAR 1000, 2060, 2560, 3060, 4060, 5060, 6060

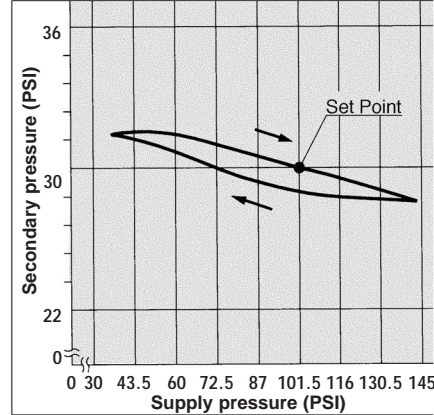
Pressure Characteristics

Conditions: Supply pressure 100 psi
 Secondary pressure 30 psi
 Flow rate .7 SCFM

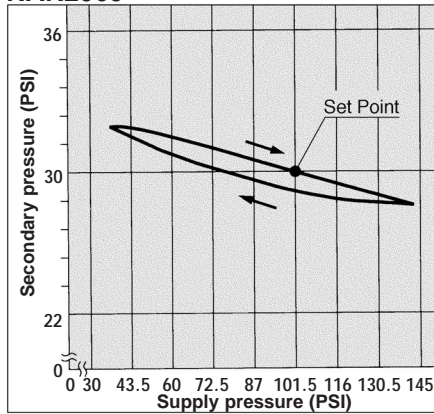
NAR1000



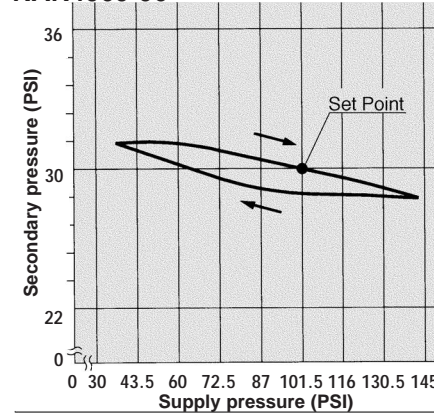
NAR4060



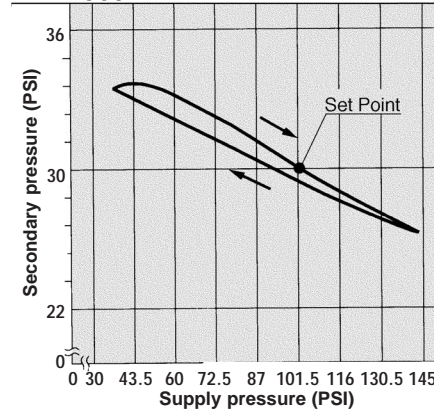
NAR2060



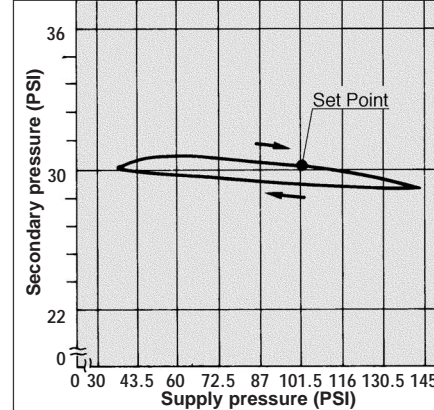
NAR4060-06



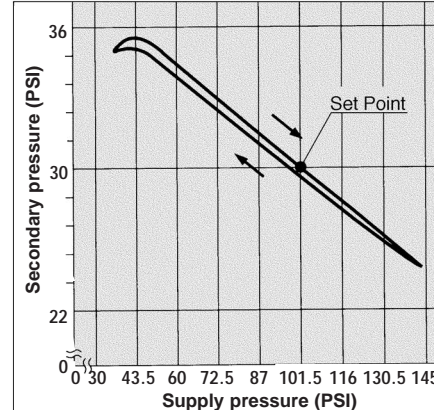
NAR2060



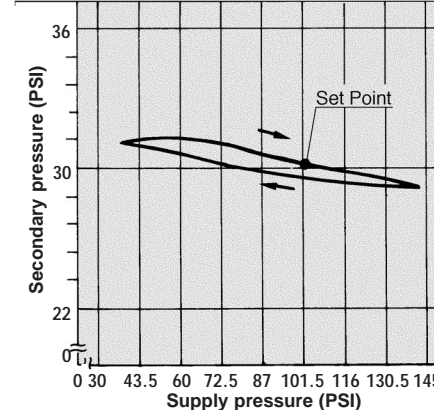
NAR4060-06



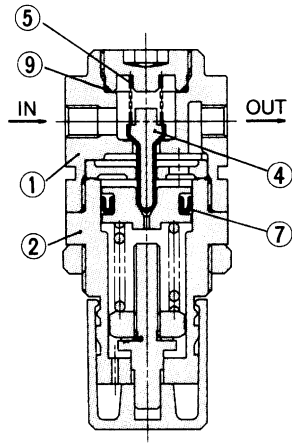
NAR2060



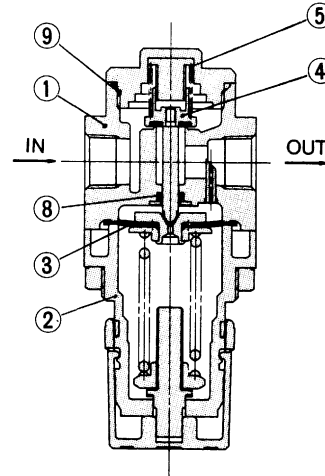
NAR4060-06



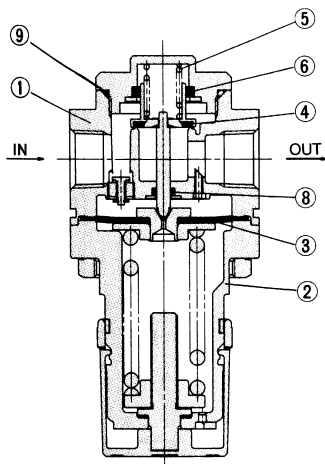
NAR1000



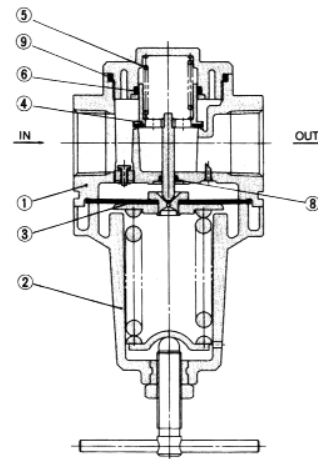
NAR2060 • 2560 • 306



NAR4060•5060



NAR6060



Main Parts

No.	Name	Material			Note
		NAR1000•2060	NAR2560•3060	NAR4060-6060	
①	Body	Zinc die casting	Aluminum die casting		Platinum silver painting
②	Bonnet	Polyacetal		Zinc die casting	Black painting (NAR4060-NAR6060)

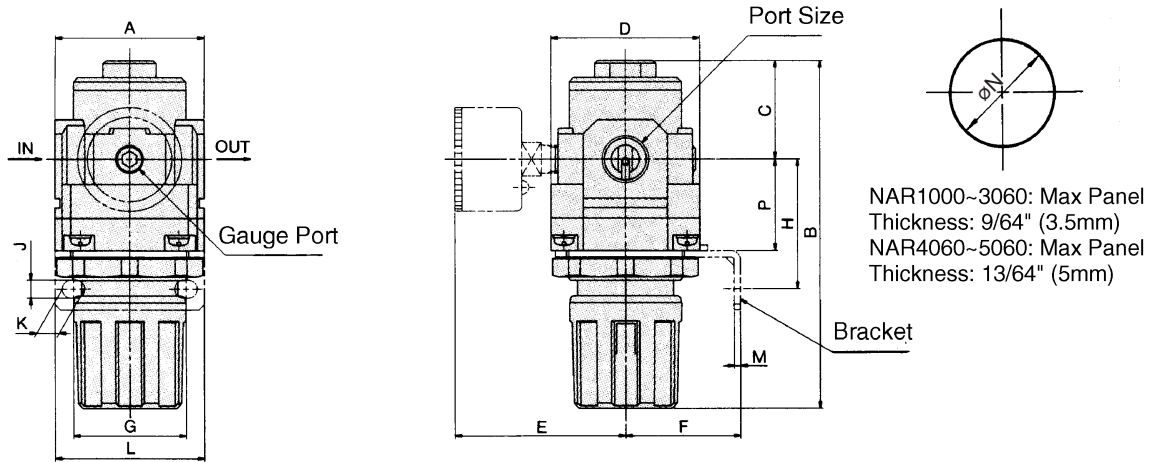
Component Parts List/Packing List

No.	Parts Name	Material	Part No.							
			NAR1000	NAR2060	NAR2560	NAR3060	NAR4060	NAR4060-N06	NAR5060	NAR6060
⑤	Diaphragm ass'y	NBR	—	134926A	131450A	1315528A	1316108A	1316108A	1316108A	131815A
④	Valve ass'y	Brass•NBR	134819-30	1349304	131449A	1315529A	13165A	131653A	131750A	13184A
⑤	Valve spring	Stainless steel	134824	XTO-3503	131463	1315121	1316172	1316172	13174	131810
⑥	Valve O-ring	NBR	—	—	—	—	ø22.53 X ø15.47 X ø3.53		131710	131811
⑦	Piston mini Y packing	NBR	NYN-10A	—	—	—	—	—	—	—
⑧	O-ring	NBR	—	—	P3	P5	P5	P5	P5	P6
⑨	O-ring	NBR	131336	P14	P22	131545	131647	131647	G50	G55

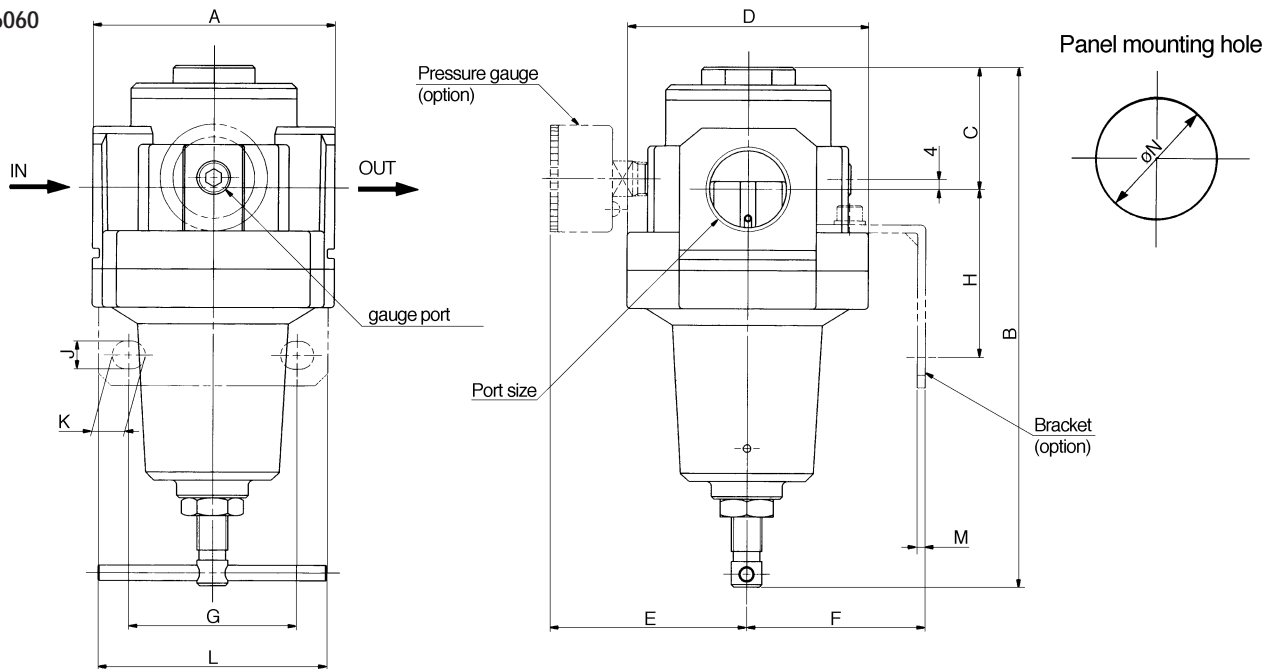
Dimensions

NAR 1000, 2060, 2560, 3060, 4060, 5060, 6060

NAR1000-5060



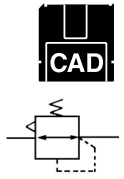
NAR6060



inch (mm)

Model	Port size	A	B	C	D	E	With Bracket							N	P
							F	G	H	J	K	L	M		
NAR1000	10-32 Nom. (M5)	.98 (25)	2.42 (61.5)	.43 (11)	.98 (25)	1.02 (26)	.98 (25)	1.10 (28)	1.18 (30)	.18 (4.5)	.26 (6.5)	1.57 (40)	.08 (2)	.81 (20.5)	.75 (19)
NAR2060	1/8 • 1/4	1.57 (40)	3.66 (93)	.59 (15)	1.57 (40)	2.28 (58)	1.18 (30)	1.34 (34)	1.73 (44)	.21 (5.4)	.61 (15.4)	2.17 (55)	.09 (2.3)	1.32 (33.5)	.98 (25)
NAR2560	1/4 • 1/8	2.09 (53)	4.04 (102.5)	.98 (25)	1.89 (48)	2.44 (62)	1.18 (30)	1.34 (34)	1.73 (44)	.21 (5.4)	.61 (15.4)	2.17 (55)	.09 (2.3)	1.32 (33.5)	.98 (25)
NAR3060	1/4 • 3/8	2.09 (53)	5.02 (127.5)	1.38 (35)	2.09 (53)	2.44 (62)	1.61 (41)	1.57 (40)	1.81 (46)	.26 (6.5)	.31 (8)	2.09 (53)	.09 (2.3)	1.67 (42.5)	1.28 (32.5)
NAR4060	1/4 • 3/8 • 1/2	2.76 (70)	5.89 (149.5)	1.48 (37.5)	2.76 (70)	2.76 (70)	1.97 (50)	2.13 (54)	2.13 (54)	.33 (8.5)	.41 (10.5)	2.76 (70)	.09 (2.3)	2.07 (52.5)	1.42 (36)
NAR4060-06	3/4	2.95 (75)	6.08 (154.5)	1.59 (40.5)	2.76 (70)	2.91 (74)	1.97 (50)	2.13 (54)	2.20 (56)	.33 (8.5)	.41 (10.5)	2.76 (70)	.09 (2.3)	2.07 (52.5)	1.50 (38)
NAR5060	3/4 • 1	3.54 (90)	6.61 (168)	1.89 (48)	3.54 (90)	3.15 (80)	2.76 (70)	2.60 (66)	2.59 (65.8)	.43 (11)	.51 (13)	3.54 (90)	.13 (3.2)	2.07 (52.5)	1.73 (44)
NAR6060	1	3.74 (95)	8.05 (204.5)	1.89 (48)	3.74 (95)	3.25 (82.5)	2.76 (70)	2.60 (66)	2.59 (65.8)	.43 (11)	.51 (13)	3.54 (90)	.13 (3.2)	—	—

- Allows quick relief of air when the supply air is less than set pressure
- Modular design connects with other SMC air preparation equipment



NAR4050-□□BG



NAR3050-□□BG



NAR2550

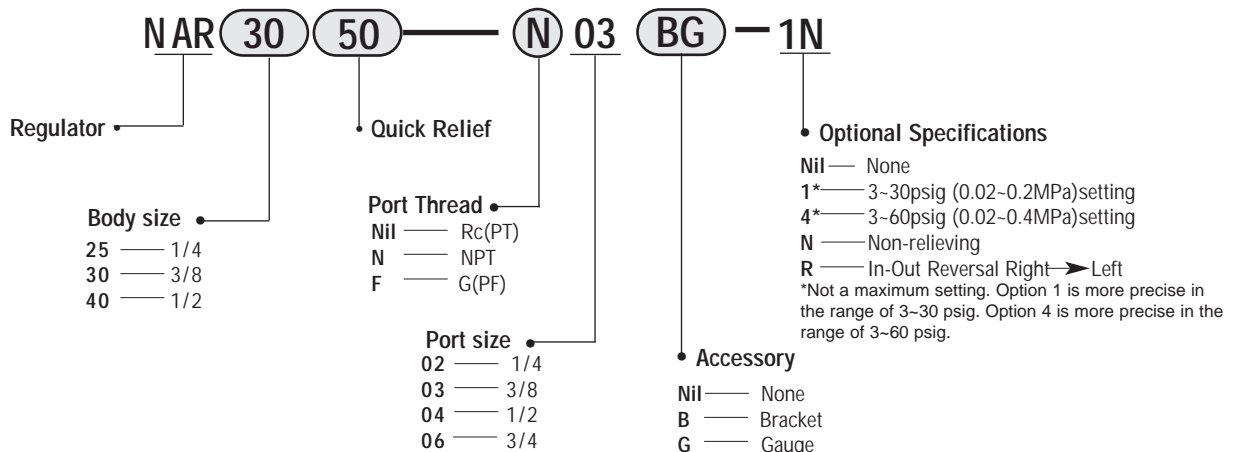
Specifications

Model	NAR2550	NAR3050	NAR4050	NAR4050-N06
Port size NPT	1/4 • 3/8	1/4 • 3/8	1/4 • 3/8 • 1/2	3/4
Proof pressure psig (MPa)	220 (1.5)			
Max. oper. press. psig (MPa)	150 (1.0)			
Regulating range psig (MPa)	7 ~ 120 (0.05 ~ 0.85)			
Port size for pressure gauge	1/8	1/8	1/4	1/4
Ambient and media temp.	23° ~ 140° F (-5° ~ 60° C)			
Construction	Relieving style			
Weight lbs. (Kgf)	0.60 (0.27)	0.90 (0.41)	1.85 (0.84)	2.07 (0.94)

Attachments/Accessories (Optional)

Type	Part No.			
	NAR2550	NAR3050	NAR4050	NAR4050-N06
Bracket	B220	B320	B420	B420
Pressure gauge	K40A-MP1.0-N01M	K40A-MP1.0-N01M	K50A-MP1.0-N02M	K50A-MP1.0-N02M

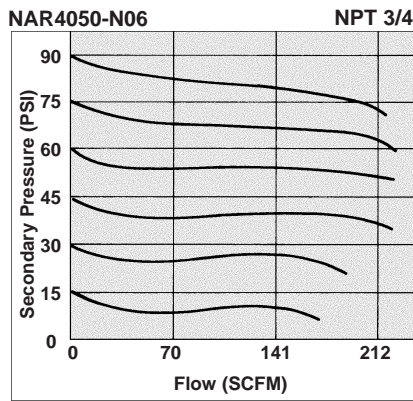
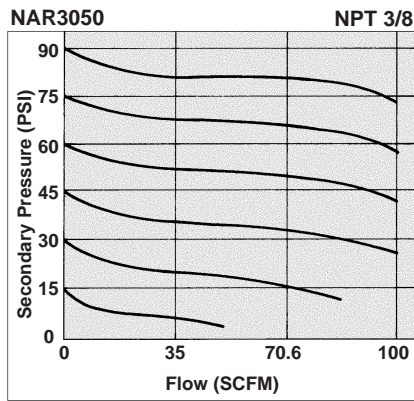
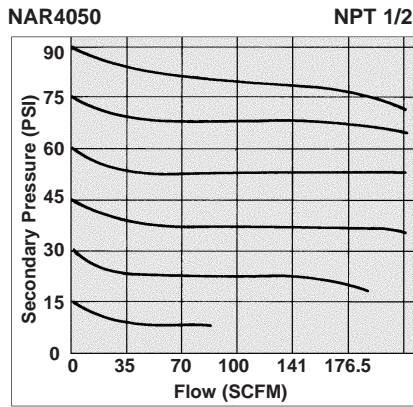
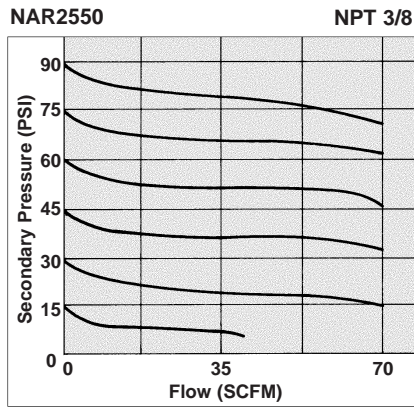
How To Order



Regulator with Quick Relief
NAR 2550, 3050, 4050

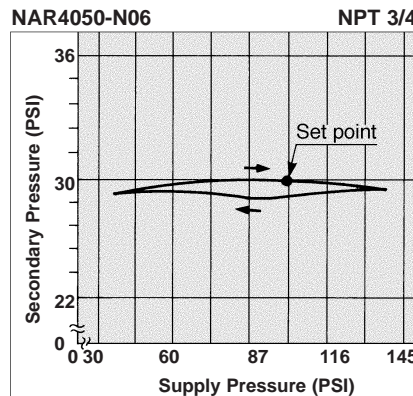
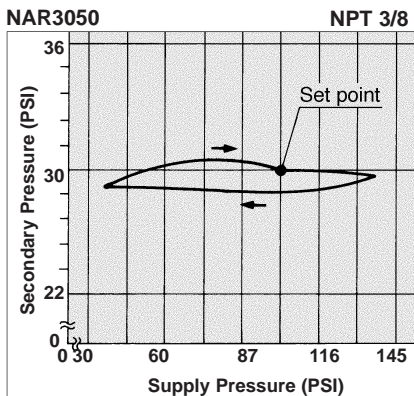
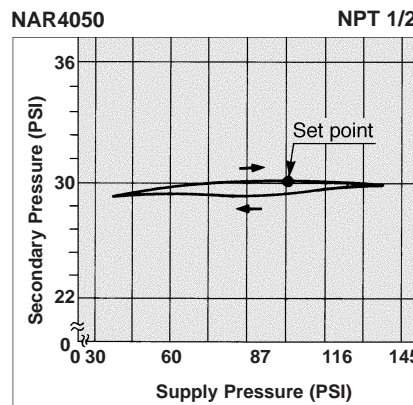
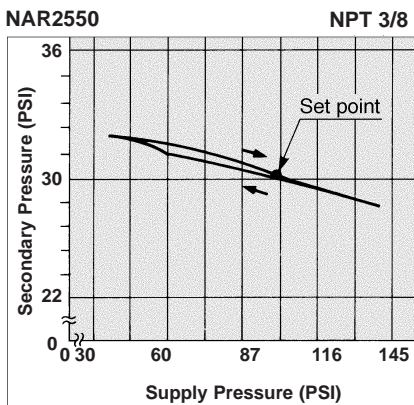
Flow Characteristics

Conditions: Supply pressure 100 psi



Pressure Characteristics

Conditions: Supply pressure 100 psi
Secondary pressure 30psi
Flow rate .7 SCFM



⚠ Precautions

Be sure to read before handling. Refer to page 6 for Safety Instructions and precautions common to products mentioned in this volume and refer to pages 7 and 8 for more detailed precautions of every series.

Selection

⚠ Warning

Do not use between the cylinder and the switching valve. To prevent a lag in the discharge time, use a regulator with a check valve.

Mounting/Adjustment

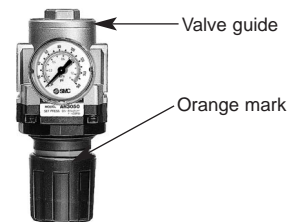
⚠ Warning

The adjustment handle must be operated manually. Using a tool to turn the handle could lead to damage. Set up the regulator while verifying the pressure that is indicated on the primary and the secondary pressure gauges. Turning the handle excessively could damage the internal parts.

⚠ Caution

Release the lock to adjust the pressure. After the adjustment, engage the lock. Failure to observe this procedure could damage the handle or cause the secondary pressure to fluctuate.

- 1) On the AR2550, pull the adjustment handle to release the lock and push the adjustment handle to engage the lock. If it does not lock easily, turn the handle slightly clockwise or counterclockwise before pushing it.
- 2) On the AR3050 and AR4050, pull the adjustment handle to release the lock. (An orange colored line is provided at the bottom of the adjustment handle for visual checking.) Push the adjustment handle to engage the lock. If it does not lock easily, turn the handle slightly clockwise or counterclockwise; then, push it until the orange colored line is no longer visible.



Install the valve guide (on the opposite side of the handle) 60mm away from the ground surface to facilitate maintenance inspection. To use this product between the solenoid valve and the actuator, contact SMC.

Construction/Parts List

NAR2550•3050•4050

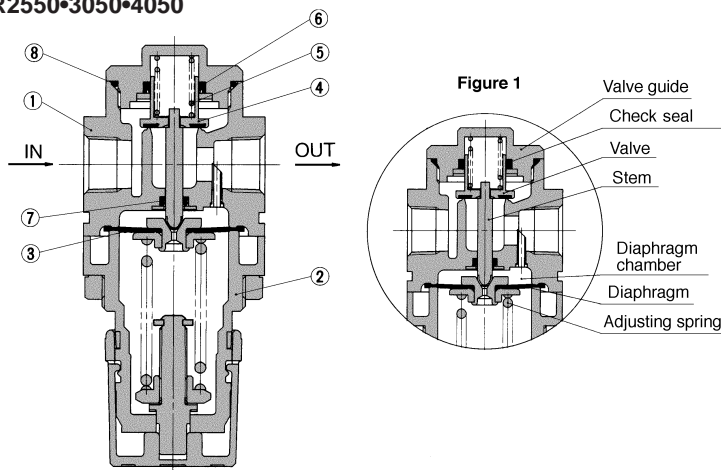
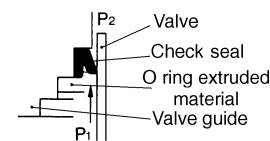
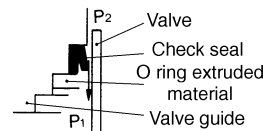


Figure 2



When the primary pressure is applied

Figure 3



When the primary pressure is exhausted

Component Parts

No.	Description	Material				Note
		NAR2550	NAR3050	NAR4050	NAR4050-06	
①	Body	Aluminum die casting				Platinum silver paint
②	Bonnet	Polycetal	Aluminum die casting			Black paint (NAR4050)

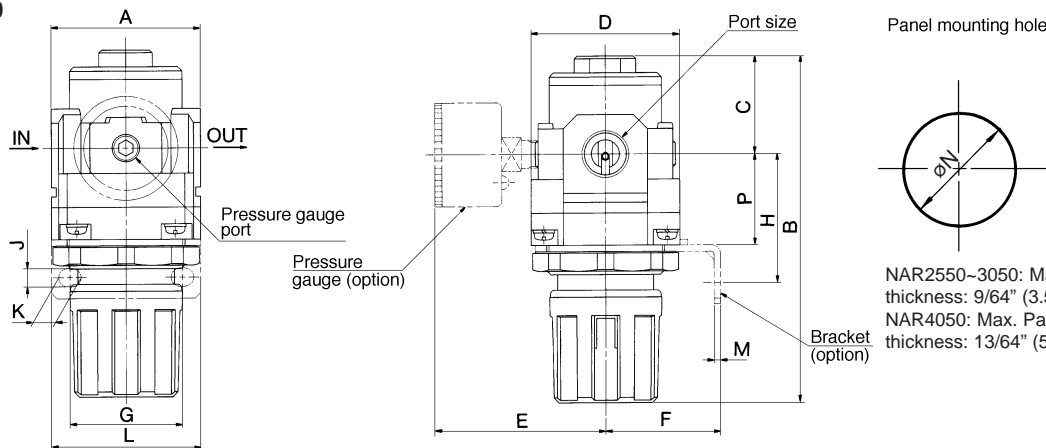
Replacement Parts

No.	Description	Material	Part no.			
			NAR2550	NAR3050	NAR4050	NAR4050-06
③	Diaphragm ass'y	NBR	1349161A	131515A	131614A	131614A
④	Valve ass'y	Brass/NBR	13144A	13154A	1316218A	1316219A
⑤	Valve spring	Stainless steel	13143	131558	131613	131613
⑥	Check packing	NBR	131446	1315101	131694	131694
⑦	O ring	NBR	P3	P5	P5	P5
⑧	O ring	NBR	P22	131545	131647	131647

When the primary pressure is higher than the set pressure, the check seal opens and the regulator works as a normal pressure relief valve. (See fig. 2). In the bottom valve chamber, the secondary pressure flows through the clearance between the valve and valve stem. When the primary pressure is blocked, the check seal folds and the pressure in the bottom valve chamber passes to the primary pressure side (see fig. 3). Because the flow area of the check seal is larger than that of the clearance between the valve and valve stem, differential pressure is created between the top and bottom chambers of the valve and the valve opens. The diaphragm is then pushed up by the pressure adjustment spring to let the valve fully open. The secondary pressure then rapidly discharges to the primary pressure side.

Dimensions

NAR2550•3050•4050



NAR2550~3050: Max. Panel thickness: 9/64" (3.5)mm
NAR4050: Max. Panel thickness: 13/64" (5)mm

inch (mm)

Model	Port size	A	B	C	D	E	With Bracket							N	P
							F	G	H	J	K	L	M		
NAR2550	1/4 • 1/8	2.09 (53)	4.04 (102.5)	.98 (25)	1.89 (48)	2.44 (62)	1.18 (30)	1.34 (34)	1.73 (44)	.21 (5.4)	.61 (15.4)	2.17 (55)	.09 (2.3)	1.32 (33.5)	.98 (25)
NAR3050	1/4 • 3/8	2.09 (53)	5.02 (127.5)	1.38 (35)	2.09 (53)	2.44 (62)	1.61 (41)	1.57 (40)	1.81 (46)	.26 (6.5)	.31 (8)	2.09 (53)	.09 (2.3)	1.67 (42.5)	1.28 (32.5)
NAR4050	1/4 • 3/8 • 1/2	2.76 (70)	5.89 (149.5)	1.48 (37.5)	2.76 (70)	2.76 (70)	1.97 (50)	2.13 (54)	2.13 (54)	.33 (8.5)	.41 (10.5)	2.76 (70)	.09 (2.3)	2.07 (52.5)	1.42 (36)
NAR4050-06	3/4	2.95 (75)	6.08 (154.5)	1.59 (40.5)	2.76 (70)	2.91 (74)	1.97 (50)	2.13 (54)	2.20 (56)	.33 (8.5)	.41 (10.5)	2.76 (70)	.09 (2.3)	2.07 (52.5)	1.50 (38)

- NAR2550 ——— SAC2000, #2
- NAR3050 ——— SAC2503, #2
- NAR4050 ——— SAC4000, #2
- NAR4050-06 ——— SAC4006, #2

Precision Regulator
NARP 3000

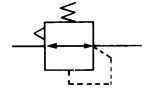


NARP3000-02



NARP3000-02BG

ANSI Symbol



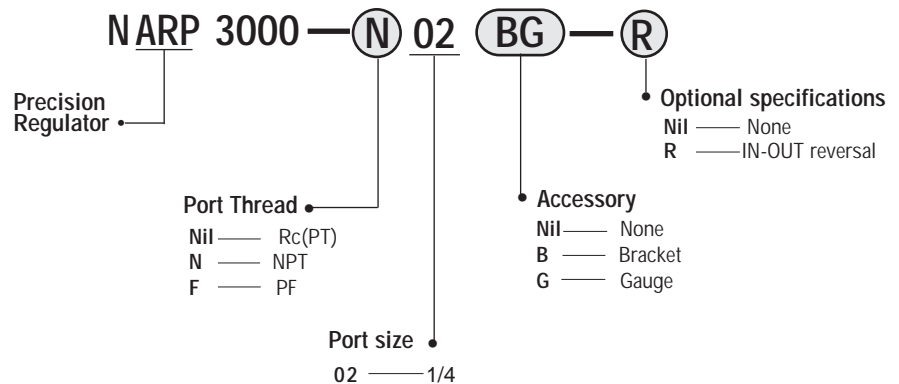
Specifications

Model	NARP3000
Port size	1/4
Proof pressure psig (MPa)	174 (1.2)
Max. working pressure psig (MPa)	115 (0.8)
Set pressure psig (MPa)	0.7 ~ 45 (0.005 ~ 0.3)
Sensitivity psig (MPa)	0.15 (0.001)
Repeatability psig (MPa)	±.45 (±0.003)
Air consumption scfm	0.20 @ 45 psig
Ambient and fluid temperature	40° ~ 140° F (-5° ~ 60° C)
Construction	Relieving style
Weight lbs (Kgf)	0.93 (0.42)

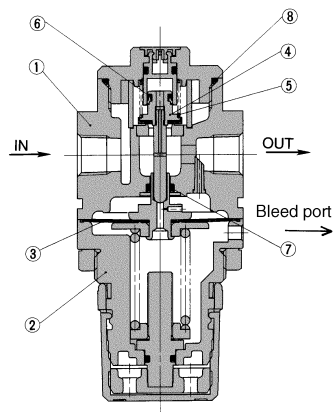
Accessories (Optional)

Option	Part Number
Bracket	B320
Gauge 0 ~ 60 psig (0 ~ 0.4 MPa)	K40-MP0.4-N01S

How To Order



Construction/Parts List



Component Parts

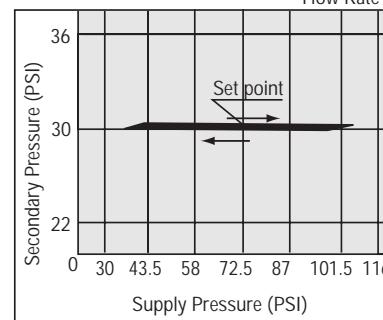
No.	Name	Material	Note
①	Body	ADC	Platinum silver painting
②	Bonnet	ADC	Black painting

Replacement Parts

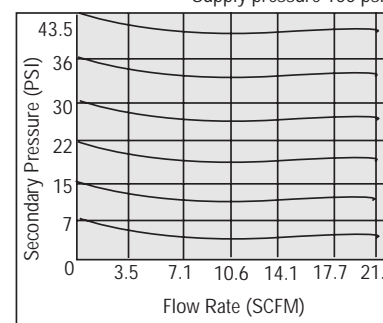
No.	Name	Material	Part number
③	Diaphragm Ass'y	NBR	1315510A
④	Valve Ass'y	Brass+NBR	1315506A
⑤	Valve Spring	SUS	1315516-2
⑥	Packing	NBR	MYN-5
⑦	O-ring	NBR	P6
⑧	O-ring	NBR	131545

Pressure/Flow Characteristics

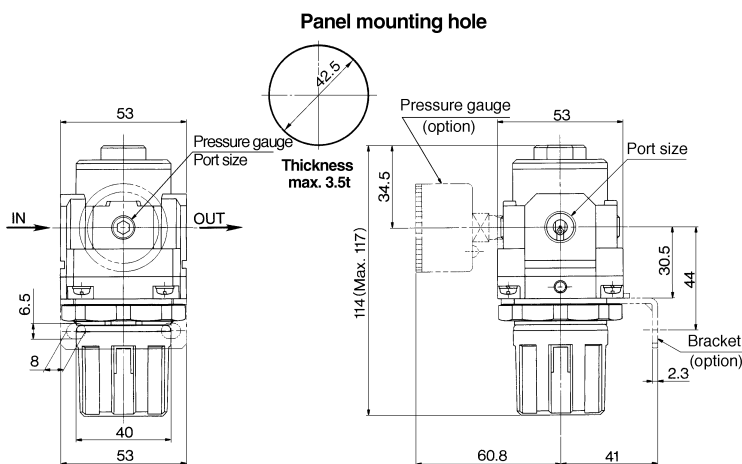
Supply pressure 72 psig
Secondary pressure 30 psig
Flow Rate 0



Supply pressure 100 psig



Dimensions



Setting

- ① The adjustment knob is the locking type. Pull the knob away from the body until the orange band is visible. Adjust as necessary and push the knob back into its locked position to prevent accidental setting change.



- ② Turning the adjustment knob clockwise increases the pressure and turning the knob counter clockwise will reduce the pressure.
- ③ Check supply pressure before adjusting pressure.

Precautions

- <Installation>
- ① Air flush piping before installation.
 - ② Install with at least 2.5 in. of free space below the unit to allow easy access.

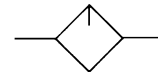
Lubricator

NAL1000, 2000, 3000, 4000, 5000, 6000

- Provides accurate lubrication of down stream equipment
- Oil drop rate is adjustable depending on equipment requirements
- NAL 3000-6000 can be refilled under pressure
- Modular design connects with other SMC air preparation equipment



ANSI Symbol



NAL3000



NAL2000

Specifications

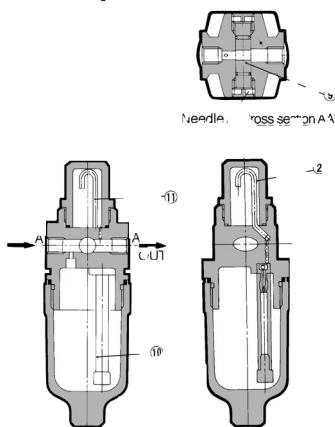
Model	NAL1000	NAL2000	NAL3000	NAL4000	NAL4000-N06	NAL5000	NAL6000
Port Size NPT	10-32 NOM. (M5)	1/8 • 1/4	1/4 • 3/8	1/4 • 3/8 • 1/2	3/4	3/4 • 1	1
Proof pressure psig (MPa)	220 (1.5)						
Max. oper. pressure psig (MPa)	150 (1.0)						
Min. oper. flow scfm*	0.14	0.53	1/4: 1.06 3/8: 1.41	1/4: 1.06 3/8: 1.41 1/2: 1.77	1.77	6.71	7.77
Bowl capacity ozs. (cm ³)	0.24 (7)	0.85 (25)	1.70 (50)	4.40 (130)	4.40 (130)	4.40 (130)	4.40 (130)
Recommended oil	Turbine Oil #1, ISO VG32						
Ambient and media temperature	23° ~ 140° F (-5° ~ 60° C)						
Bowl material	Polycarbonate						
Weight lbs. (Kgf)	0.15 (0.07)	0.49 (0.22)	0.66 (0.28)	1.23 (0.52)	1.28 (0.58)	2.38 (1.08)	2.60 (1.19)
Accessory (Standard)	Bowl guard	—	●	●	●	●	●

*Conditions: Supply pressure - 70 psig, Number of drop - 5 drops/min, ISOVG32, 70° F

Accessories (Optional)

Type	Part No.						
	NAL1000	NAL2000	NAL3000	NAL4000	NAL4000-N06	NAL5000	NAL6000
Bracket	—	B240A	B340A	B440A	B540A	B640A	B640A

NAL1000 Principle



A portion of the air entering from "IN" pressurizes the surface of the oil. The remainder of the air is passed through a needle valve ① and flows out to "OUT". By differential pressure between the pressure in the bowl at that time and the pressure of the damper vane ②, oil inside the bowl is passed through the lead tube ③ and dropped through fill tube to ④ "OUT". Counter-clockwise turn of needle valve increases oil capacity and clock-wise turn (fully closed) stops lubrication.

Precautions

<Installation>

- 1 Recommended oil is ISO VG32.
- 2 Air flush piping before installation.
- 3 If intended for use with power press, consult SMC representative .
- 4 Never reverse the flow through this unit, *i.e.* Supply to OUT port.

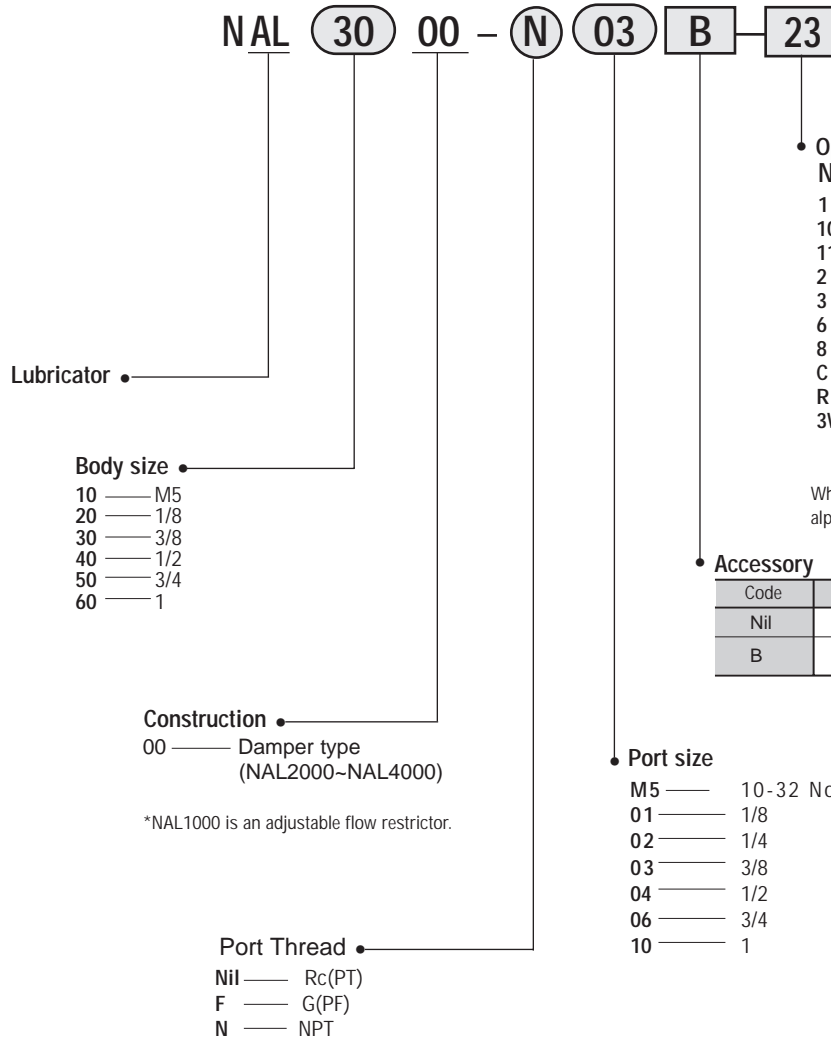
<Atmosphere>

- 1 Polycarbonate bowls may be damaged and possibly fail if exposed to synthetic oils, thinner solvents, trichloroethylene, kerosene or other aromatic hydrocarbons.
If used in above atmosphere, please use a metal bowl.

<Refill>

- 1 A minimum air flow is required for proper operation. (See specifications).
- 1 Please ensure the minimum requirements are met.
- 2 NAL1000, 2000 lubricators cannot be refilled under pressure. Shut off air pressure before refilling.

How To Order



Optional specifications

- Nil — None
- 1 — 34 oz (1000cm³) tank
- 10 — 34 oz (1000cm³) tank/with switch (Float down ON)
- 11 — 34 oz (1000cm³) tank/with switch (Float down OFF)
- 2 — Metal bowl
- 3 — With drain cock
- 6 — Nylon bowl
- 8 — Metal bowl with level gauge
- C — With bowl guard (Only NAL2000)
- R — IN-OUT reversal (Right → Left)
- 3W — Drain Cock with barb fitting for nylon tube (ø6mm OD/ø4mm ID) (NAL3000-6000)

When specifying more than one option, please list numerically, then alphabetically. Example: 23R

Accessory

Code	Description	Applicable model
Nil	—	—
B	Bracket	NAL2000-NAL6000

Port size

- M5 — 10-32 Nom. (M5)
- 01 — 1/8
- 02 — 1/4
- 03 — 3/8
- 04 — 1/2
- 06 — 3/4
- 10 — 1

Accessories and Combinations

- ▼ Combination
- No Combination
- Refer to "How to Order"

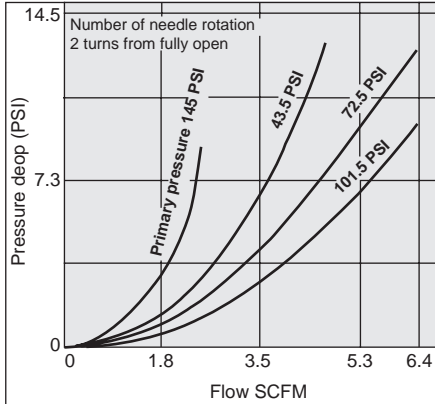
Accessories	Suffix												Applicable model			
		1	10	11	2	3	6	8	C	R	3W	NAL1000	NAL2000	NAL3000	NAL4000-NAL6000	
1000cm ³ tank	-1														▼	▼
1000cm ³ tank (Switch ON)	-10														▼	▼
1000cm ³ tank (Switch OFF)	-11														▼	▼
Metal bowl	-2				▼	▼						▼	▼	▼	▼	▼
With Drain Cock	-3				▼	▼	▼	▼	▼	▼		▼	▼	▼	▼	▼
Nylon bowl	-6					▼			●	▼	▼	▼	▼	▼	▼	▼
Metal bowl with level gauge	-8					▼				▼				▼	▼	▼
With bowl guard	-C					▼	▼			▼			▼	▼	▼	▼
In-Out reversal	-R	▼	▼	▼	▼	▼	▼	▼	▼	▼		▼	▼	▼	▼	▼
Drain cock with Barb Fitting	-3W						▼	▼		▼				▼	▼	▼

Flow Characteristics

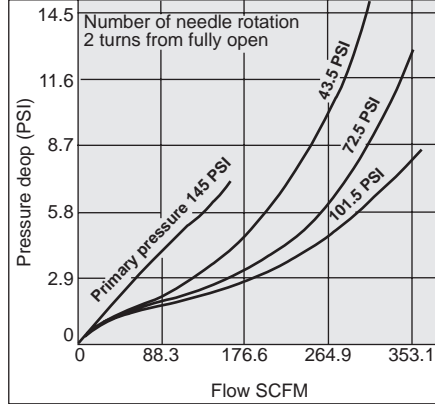
NAL1000, 2000, 3000, 4000, 5000, 6000

Flow Characteristics

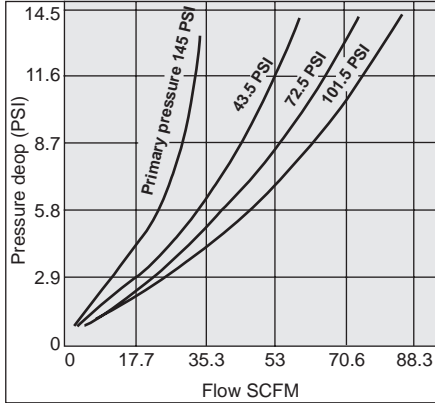
NAL1000



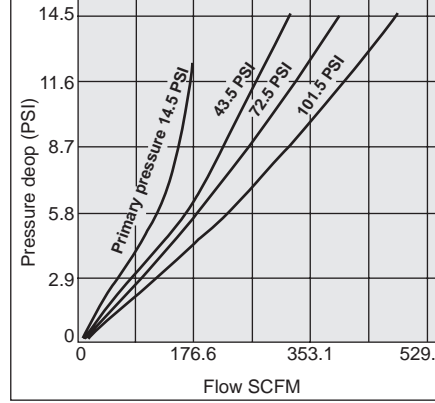
NAL4000-06



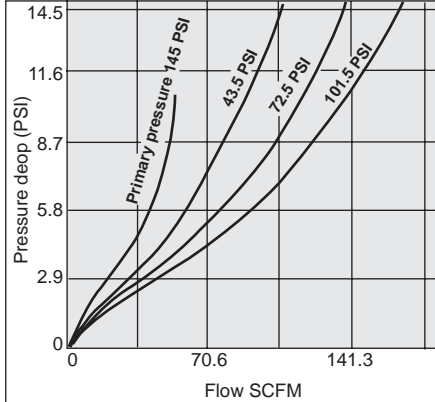
NAL2000



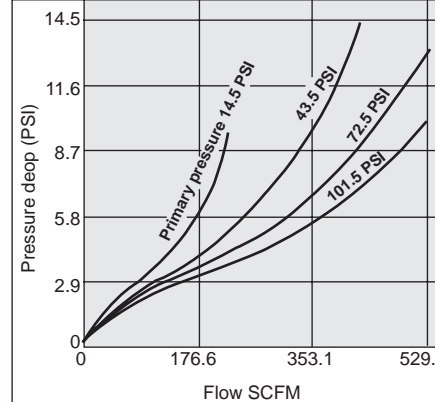
NAL5000



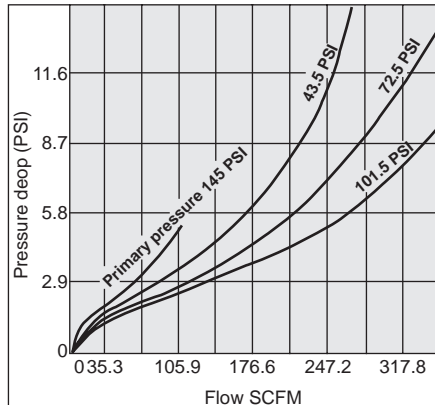
NAL3000



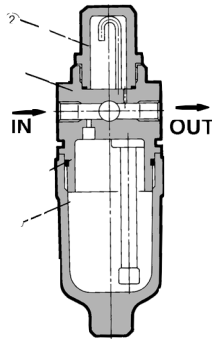
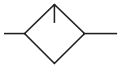
NAL6000



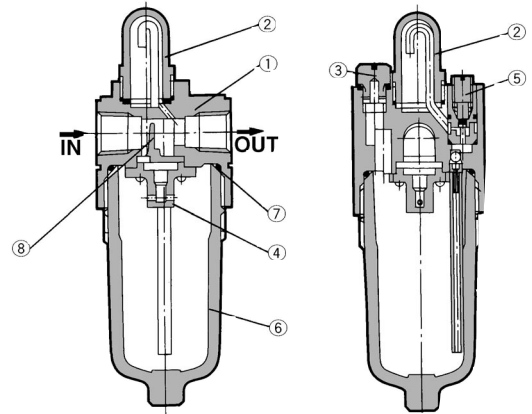
NAL4000



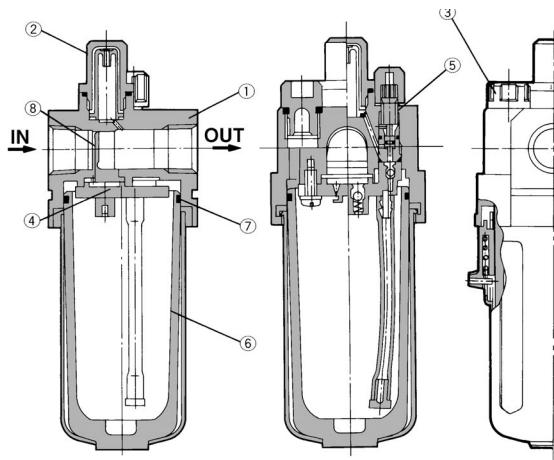
ANSI Symbol NAL1000



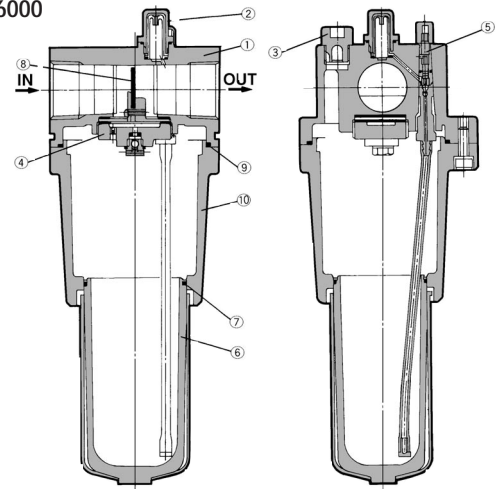
NAL2000



NAL3000•4000



NAL5000•6000



Main Parts

No.	Name	Material			Note
		NAL1000•2000	NAL3000•4000•4000-N06	NAL5000•6000	
①	Body	Zinc die casting	Aluminum die casting		Platinum silver painting
⑩	Housing		—	Aluminum die casting	Platinum silver painting

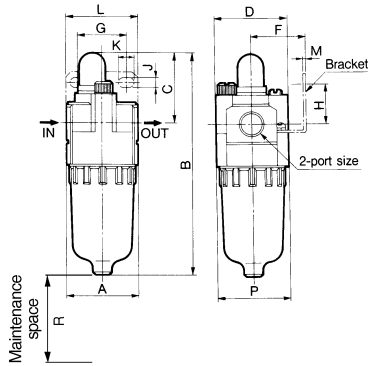
Component Parts List

	Name	Material	Part No.						
			NAL1000	NAL2000	NAL3000	NAL4000	NAL4000-N06	NAL5000	NAL6000
②	Sight Dome Ass'y	Polycarbonate	12132	12316	12155A	12155A	12155A	12155A	12155A
③	Filter Cap Ass'y	—	—	122962A	12159A	12164A	12164A	12164A	12164A
④	Damper Guide Ass'y	—	—	122953	121521A	121611A	121611A	12325A	12335A
⑤	Needle Valve Ass'y	—	—	12297PA	121522A	121522A	121616A	121616A	121616A
⑥	Bowl Ass'y	—	NC100L	NC200L-C	NC300L	NC400L	NC400L	NC400L	NC400L
⑦	Bowl O-ring	NBR	111325	11297	111512	111636	111636	111636	111636
⑧	Damper	Synthetic Resin	—	122933 -2 (1/4) -1 (1/8)	12158 -2 (3/8) -1 (1/4)	12165 -2 (1/2) -1 (3/8) 121623 (1/4)	12165-2	123210A	123310A
⑨	Housing O-ring	NBR	—	—	—	—	—	111710	11189

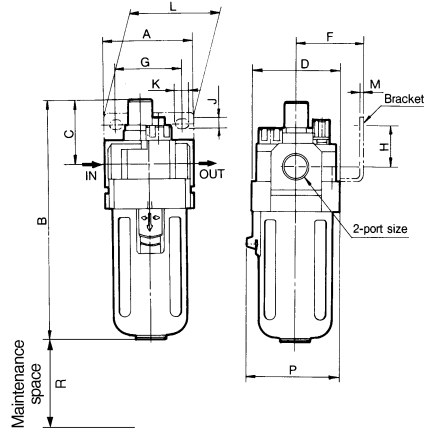
Dimensions

NAL1000, 2000, 3000, 4000, 5000, 6000

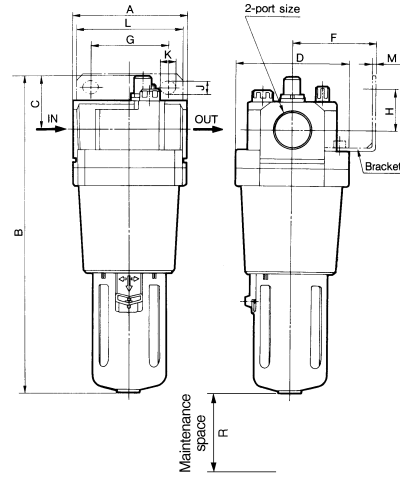
NAL1000•2000



NAL3000•4000

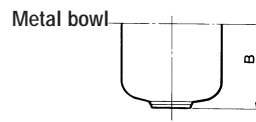
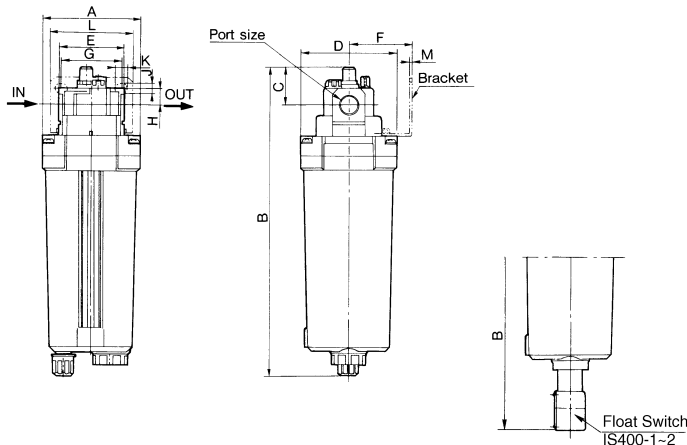


NAL5000•6000

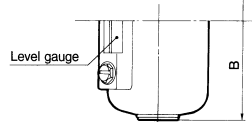


Model	Port size	A	B	C	D	F	G	H	J	K	L	M	P	R
NAL1000	10-32 Nom. (M5)	.98 (25)	3.21 (81.5)	1.00 (25.5)	.98 (25)	—	—	—	—	—	—	—	1.06 (27)	1.97 (50)
NAL2000	1/8 • 1/4	1.57 (40)	4.80 (122)	1.50 (38)	1.57 (40)	1.18 (30)	1.06 (27)	.87 (22)	.21 (5.4)	.33 (8.4)	1.57 (40)	0.09 (2.3)	1.57 (40)	3.15 (80)
NAL3000	1/4 • 3/8	2.09 (53)	5.59 (142)	1.50 (38)	2.09 (53)	1.61 (41)	1.57 (40)	.91 (23)	.26 (6.5)	.31 (8)	2.09 (53)	.09 (2.3)	2.20 (56)	3.74 (95)
NAL4000	1/4 • 3/8 • 1/2	2.76 (70)	6.97 (177)	1.61 (41)	2.76 (70)	1.97 (50)	2.13 (54)	1.02 (26)	.33 (8.5)	.41 (10.5)	2.76 (70)	.09 (2.3)	2.87 (73)	4.72 (120)
NAL4000-N06	3/4	2.95 (75)	6.97 (177)	1.54 (39)	2.76 (70)	1.97 (50)	2.13 (54)	.98 (25)	.33 (8.5)	.41 (10.5)	2.76 (70)	.09 (2.3)	2.87 (73)	4.72 (120)
NAL5000	3/4 • 1	3.54 (90)	10 (254)	1.77 (45)	3.54 (90)	2.76 (70)	2.60 (66)	1.38 (35)	.43 (11)	.51 (13)	3.54 (90)	.13 (3.2)	—	4.72 (120)
NAL6000	1	3.74 (95)	10.55 (268)	1.77 (45)	3.74 (95)	2.76 (70)	2.60 (66)	1.38 (35)	.43 (11)	.51 (13)	3.54 (90)	.13 (3.2)	—	4.72 (120)

Semi-standard Type 34oz. (1000cm³) Tank



Metal bowl with level gauge



Model	Metal Bowl	Metal Bowl with level gauge
	B	B
NAL1000	24.24 (81.5)	—
NAL2000	37.12 (122)	—
NAL3000	43.28 (142)	49.38 (162)
NAL4000	53.95 (177)	60.04 (197)
NAL4000-N06	53.95 (177)	60.04 (197)
NAL5000	77.42 (254)	83.51 (274)
NAL6000	81.68 (268)	87.78 (288)

Float Switch Specifications

Description	IS400-1-2
Capacity	AC:15VA, DC: 15W
Voltage	AC100V, DC250V
Proof Pressure	220 psig
Max. Oper. Press.	150 psig
Media	Water, Oil
Ambient/Fluid Temp	40-140°F

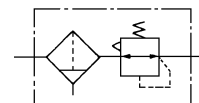
Model	Port size	A	*B	C	D	With Bracket							M	R
						E	F	G	H	J	K	L		
NAL3000-02-03-1	1/4 • 3/8	4.17 (106)	12.76 (324) [14.92 (374)]	1.50 (38)	4.17 (106)	2.09 (53)	2.76 (70)	2.60 (66)	.98 (25)	.43 (11)	.51 (13)	3.54 (90)	.13 (3.2)	8.27 (210)
NAL4000-02-04-1	1/4 • 3/8 • 1/2	4.17 (106)	13.15 (334) [15.12 (384)]	1.61 (41)	4.17 (106)	2.76 (70)	2.76 (70)	2.60 (66)	.71 (18)	.43 (11)	.51 (13)	3.54 (90)	13 (3.2)	8.27 (210)
NAL4000-N06-1	3/4	4.17 (106)	13.15 (334) [15.12 (384)]	1.54 (39)	4.17 (106)	2.95 (75)	2.76 (70)	2.60 (66)	.63 (16)	.43 (11)	.51 (13)	3.54 (90)	13 (3.2)	8.27 (210)
NAL5000-06-10-1	3/4 • 1	4.17 (106)	13.23 (336) [15.20 (386)]	1.77 (45)	4.17 (106)	3.54 (90)	2.76 (70)	2.60 (66)	1.38 (35)	.43 (11)	.51 (13)	3.54 (90)	13 (3.2)	8.27 (210)
NAL6000-N10-1	1	4.17 (106)	13.23 (336) [15.20 (386)]	1.77 (45)	4.17 (106)	3.74 (95)	2.76 (70)	2.60 (66)	1.38 (35)	.43 (11)	.51 (13)	3.54 (90)	13 (3.2)	8.27 (210)

* []: With Float switch

- Reduces space by combining the filter and the regulator into one unit
- Wide variation of filtration and regulating pressures to fit most applications
- Modular design connects with other SMC Air Preparation Equipment



ANSI Symbol



NAW3000-N03



NAW2000-N02-C



NAW1000-M5



NAW3000-N03BG



NAW2000-N02BG-C



NAW1000-M5BG

Specifications

Model	NAW1000	NAW2000	NAW3000	NAW4000	NAW4000-N06
Port Size NPT	M5x0.8	1/8 • 1/4	1/4 • 3/8	1/4•3/8•1/2	3/4
Proof pressure psig (MPa)	220 (1.5)				
Max. oper. pressure psig (MPa)	150 (1.0)				
Regulating pressure range psig (MPa)	7~100 (0.05~0.7)	7~120 (0.05 ~ 0.85)			
Port size pressure gauge	1/16Rc(PT)	1/8 NPT	1/8 NPT	1/4 NPT	1/4 NPT
Ambient and fluid temperature	23° ~140° F (-5° ~ 60° C)				
Filtration	5µm				
Bowl capacity ozs. (cm ³)	.08 (2.5)	.27 (8)	.78 (23)	1.52 (45)	1.52 (45)
Bowl material	Polycarbonate				
Construction/regulator	Relieving Type				
Weight lbs. (kgf)	0.20 (0.09)	0.79 (0.36)	1.17 (0.53)	2.40 (1.09)	2.54 (1.15)
Accessory (standard) Bowl guard	—	●	●	●	●

Accessories (Optional)

Type	Part No.				
	NAW1000	NAW2000	NAW3000	NAW4000	NAW4000-N06
Bracket	B120	B220	B320	B420	B420
Pressure Gauge	G27-P10-R1	K40A-MP1.0-N01M		K50A-MP1.0-N02M	
*Float Auto Drain	N.O.	—	NAD43	NAD44	NAD44
	N.C.	—	NAD53	NAD54	NAD54
Differential Pressure Drain	NAD61	NAD62-0	—	—	—

* Min. operating pressure: N.O. - 15psig, N.C. - 22psig

Setting

- 1 The adjustment knob is a locking type. Pull the knob away from the body until the orange band is visible. Adjust as necessary and push the knob back into its locked position to prevent accidental setting change.



- 2 Clockwise rotation of the knob results in a pressure increase and vice-versa.
- 3 Check supply pressure before adjusting pressure.

Precautions

<Installation>

- 1 Air flush piping before installation.
- 2 Use of the piping adaptors will ease installation.

<Atmosphere>

Polycarbonate bowls may be damaged and possibly fail if exposed to synthetic oils, thinner solvents, trichlorethylene, kerosene and other aromatic hydrocarbons. If used in above atmosphere, please use a metal bowl.

<Auto Drain>

Float type (Normally open)

- 1 Drain line should be 5/16 in. (8mm) or more and should be less than 16.5 ft. (5m). Be sure not to have any upward turns in the drain line which would prevent drainage.
- 2 Unsuitable for flow below 3.5 scfm(100N/min).
- 3 Min. operating pressure 15 psig (0.1 MPa).

Float type (Normally closed)

- 1 Suitable for a compressor with capacity lower than 0.75kw.
- 2 Min. operating pressure 22 psig (0.15 MPa).
- 3 Drain piping should be 5/32 in. (4mm) or greater and also less than 16.5 ft. (5m) in length.
- 4 Install vertically.

Differential type

- 1 Min. operating pressure 15 psig (0.1 MPa). Soft nylon tube of more than 3/32 in. (2.5mm) is recommended for drain piping. The overall length should be less than 16.5 ft. (5m). Be sure not to have any upward turns in the piping.
- 2 Install vertically.

Maintenance

Filter element to be changed after 1 year or when a pressure drop of 15 psi (0.1 MPa) is reached.

Filter/Regulator

NAW1000, 2000, 3000, 4000

How To Order

NAW 30 00 - N 03 BD 1W

Filter Regulator

Body size

- 10 — M5
- 20 — 1/8
- 30 — 3/8
- 40 — 1/2

Port Thread

- Nil — Rc(PT)
- F — G(PF)
- N — NPT

Port size

- M5 — 10-32 Nom. (M5)
- 01 — 1/8
- 02 — 1/4
- 03 — 3/8
- 04 — 1/2
- 06 — 3/4

Optional specifications

- Nil — None
- 1 — 3-30psig (0.02 ~ 0.2MPa) setting* (except NAW1000)
- 2 — Metal bowl
- 4 — 3-30psig (0.02 ~ 0.4MPa) setting*
- 6 — Nylon bowl
- 8 — Metal bowl with level gauge (only NAW3000-NAW4000)
- C — With bowl guard (Only NAW2000)
- J — Drain Guide 1/4 Pipe Thread
- N — Non-relieving
- R — IN-OUT reversal
- W — Drain Cock with Barb Fitting for Nylon tube (ø6mm OD/ø4mm ID)

When specifying more than one option, please list numerically, then alphabetically.

*Not a maximum setting. Option 1 is more precise in the range of 3-30 psig. Option 4 is more precise in the range of 3-60 psig.

Accessory

Code	Description	Applicable model
Nil	—	—
B	Bracket	NAW1000-NAW4000-N06
C	Auto drain	Float type (N.C.)
D		Differential Pressure
		Float type (N.O.)
G	Pressure Gauge	NAW1000
		NAW2000-NAW4000-N06

Accessories And Combinations

- ▼ Combination
- No Combination
- Refer to "How to Order"

Accessories	Suffix	D	D	C	1	2	4	6	8	C	J	N	R	W	Applicable model			
															NAW1000	NAW2000	NAW3000	NAW4000
Differential pressure auto drain	D				▼	▼	▼	▼	▼	●		▼	▼		▼	▼		▼
Float auto drain (N.O)	D				▼	▼	▼	▼	▼			▼	▼				▼	▼
Float auto drain (N.C)	C				▼	▼	▼	▼	▼			▼	▼				▼	▼
3 ~ 30 psi (0.02 ~ 0.2 MPa)	-1	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	▼	●	▼	▼	▼	▼
Metal bowl	-2	▼	▼	▼	▼	▼	▼	▼	▼		●	●	▼	▼	▼	▼	▼	▼
3 ~ 60 psi (0.02 ~ 0.4 MPa)	-4	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	▼	●	▼	▼	▼	▼
Nylon bowl	-6	▼	▼	▼	▼	▼	▼	▼	▼		●	●	▼	▼	▼	▼	▼	▼
Metal bowl with level gauge	-8		▼	▼	▼	●	●				●	▼	▼				▼	▼
With bowl guard	-C	▼			▼	●	●	▼	▼			▼	▼				▼	▼
Drain guide (1/4)	-J				▼	▼	▼	▼	▼			▼	▼				▼	▼
Non-relieving	-N	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	▼	●	▼	▼	▼	▼
IN-OUT reversal (Right - Left)	-R	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	▼	●	▼	▼	▼	▼
With barb fitting	-W				▼	●	●	▼				▼	▼				▼	▼

- Allows use in low or high ambient temperature environments
- Combines the filter and regulator to save space
- Modular design connects with other SMC air preparation equipment

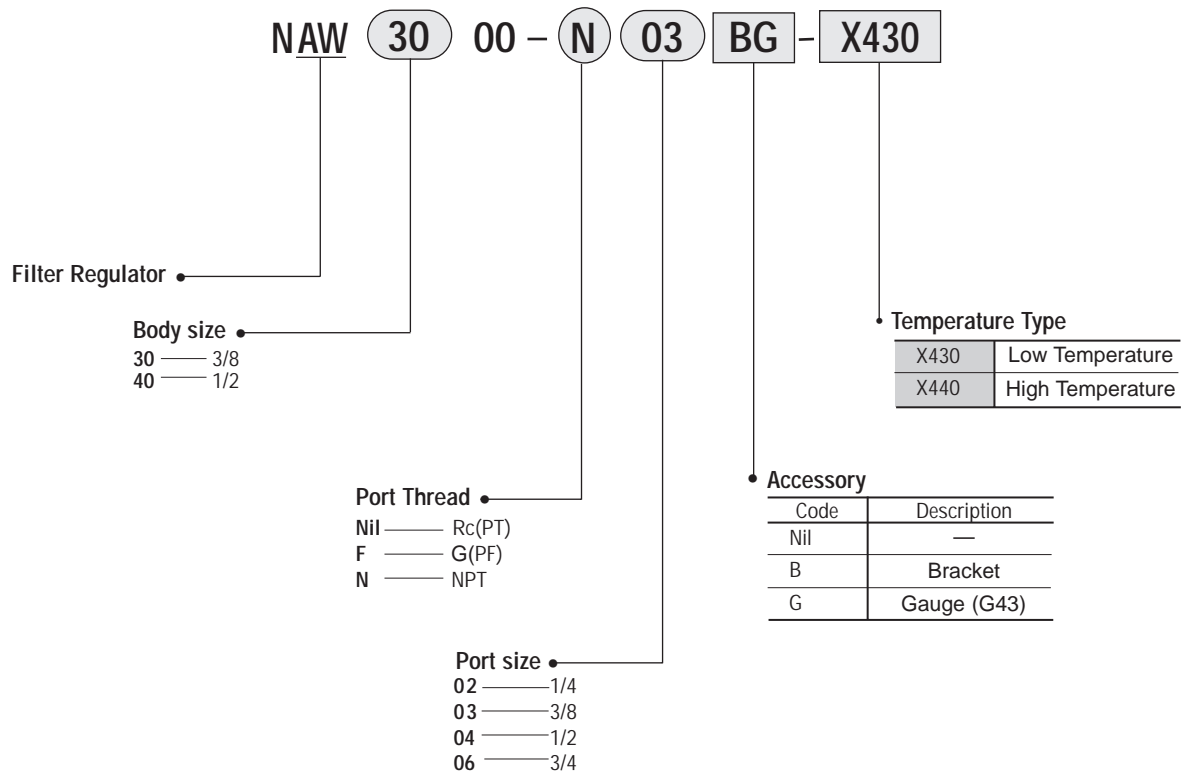
Specifications (Low Temp) -X430

Model	NAW3000	NAW4000	NAW4000-N06
Port size NPT	1/4 • 3/8	1/4 • 3/8 • 1/2	3/4
Ambient temperature	-22~140° F (-30 ~ 60° C)		
Fluid temperature	-23~140° F (-5 ~ 60° C)		
Filtration	5µm		
Bowl material	Aluminum Die Casting		

Specifications (High Temp) -X440

Model	NAW3000	NAW4000	NAW4000-N06
Port size NPT	1/4 • 3/8	1/4 • 3/8 • 1/2	3/4
Ambient temperature	23~180° F (-5 ~ 80° C)		
Fluid temperature	23~140° F (-5 ~ 60° C)		
Filtration	5µm		
Bowl material	Aluminum Die Casting		

How To Order



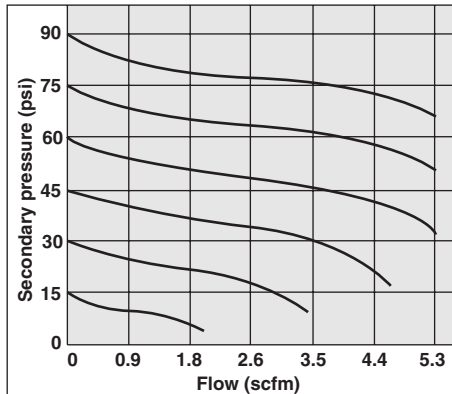
Filter/Regulator

NAW1000, 2000, 3000, 4000

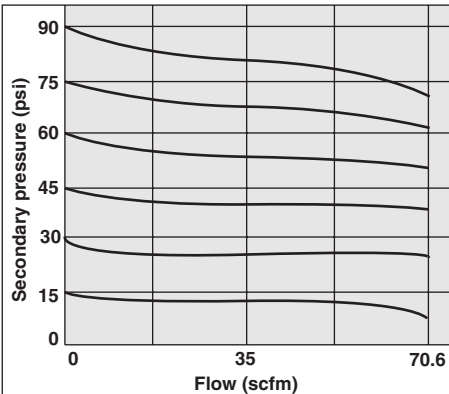
Flow Characteristics

Conditions: Supply pressure 100 psig

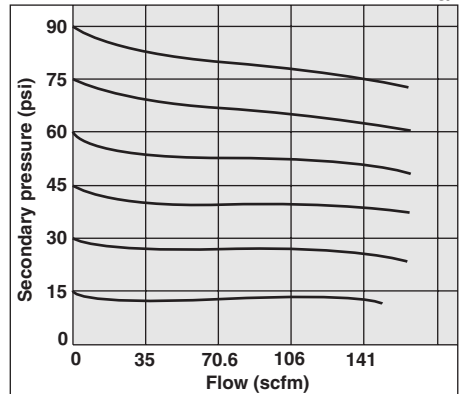
NAW1000 M5X0.8



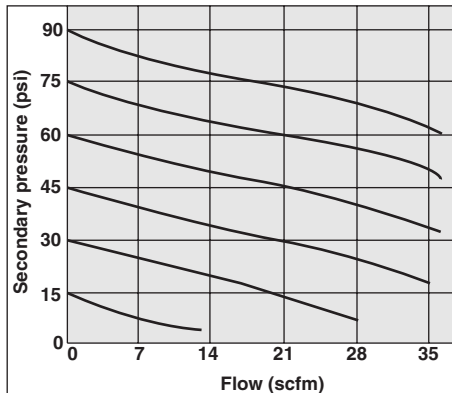
NAW3000 NPT 3/8



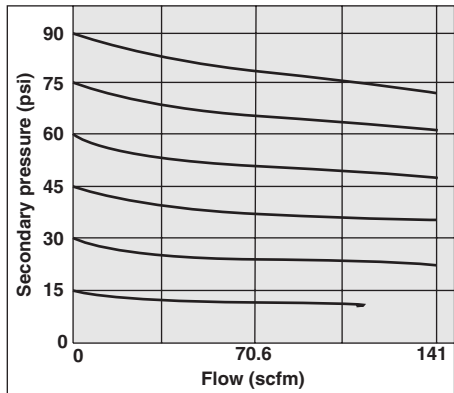
NAW4000-06 NPT 3/4



NAW2000 NPT 1/4



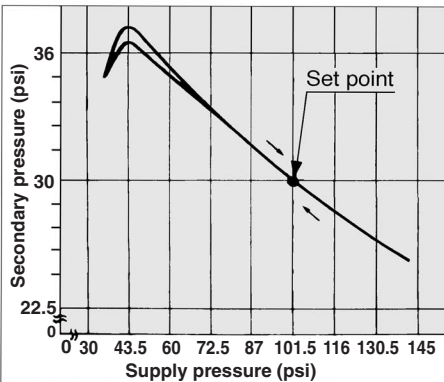
NAW4000 NPT 1/2



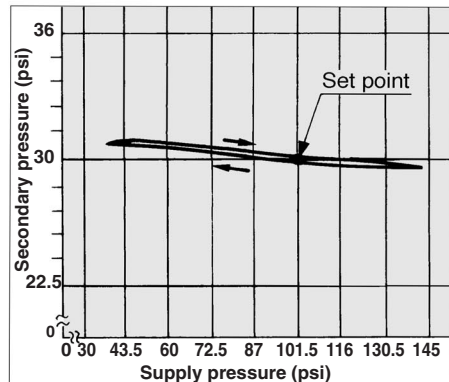
Pressure Characteristics

Conditions—100psi Supply Pressure, 30psi Set Pressure, .71SCFM Flow Rate

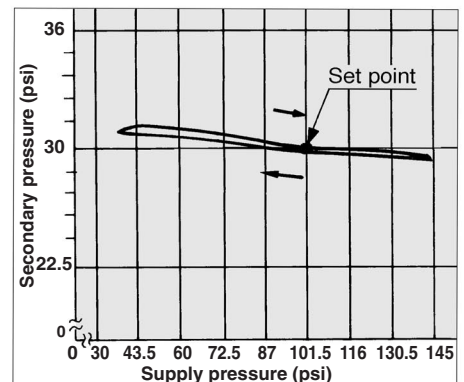
NAW1000 M5X0.8



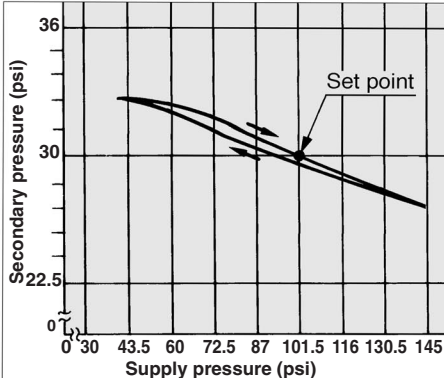
NAW3000 NPT 3/8



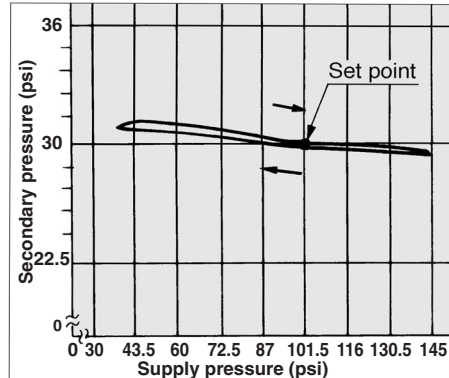
NAW4000-06 NPT 3/4



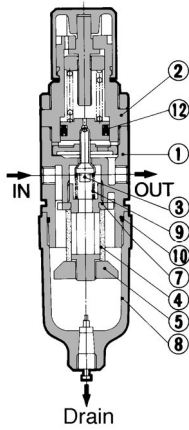
NAW2000 NPT 1/4



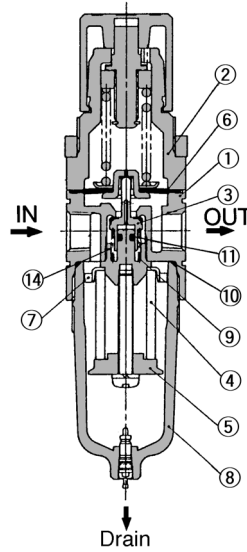
NAW4000 NPT 1/2



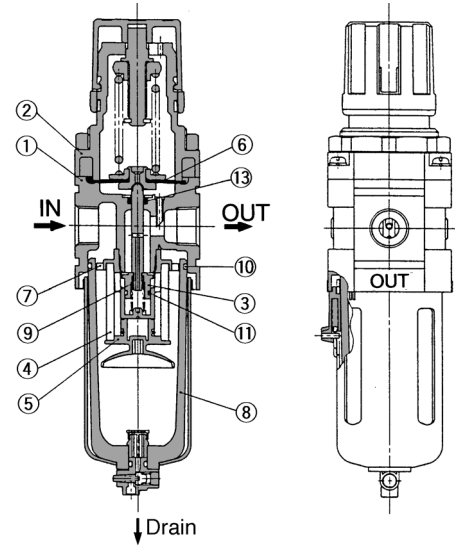
NAW1000



NAW2000



NAW3000•4000



Main Parts

No.	Name	Material			Note
		NAW1000• 2000	NAW3000	NAW4000• 4000-N06	
①	Body	Zinc die casting	Aluminum die casting		Platinum silver painting
②	Bonnet	Polyacetal		Aluminum die casting	Black painting

Component Parts List

	Name	Material	Part No.				
			NAW1000	NAW2000	NAW3000	NAW4000	NAW4000-N06
③	Valve Ass'y	Brass ¥ NBR	134819	1349160	1315216A	1316212A	1316213A
④	Filter Element	Polyolefin	111344	1129116	111585	1116103	1116103
⑤	Baffle	() mat'l	111312 (POM)	11295 (ABS)	1315541 (POM)	1316276 (POM)	1316276 (POM)
⑥	Diaphragm Ass'y	NBR		131445A	1315215A	1316211A	1316211A
⑦	Deflector	ABS	11133A	112961A			
⑧	Bowl Ass'y	Polycarbonate	NC100F	NC200F-C	NC300F	NC400F	NC400F
⑨	Valve Spring	Stainless Steel	134824	1349158	131525	131625	131625
⑩	Bowl O-ring	NBR	111325	11297	111512	111636	111636
⑪	Valve O-ring	NBR		1349247	131544	131645	131645
⑫	Piston/Seal Ass'y	NBR	MYN-10A				
⑬	O-ring	NBR			P5	P5	P5
⑭	Valve guide	() mat'l		134132 (ZDC)	1315540 (POM)	1316275 (POM)	1316275 (POM)

Dimensions

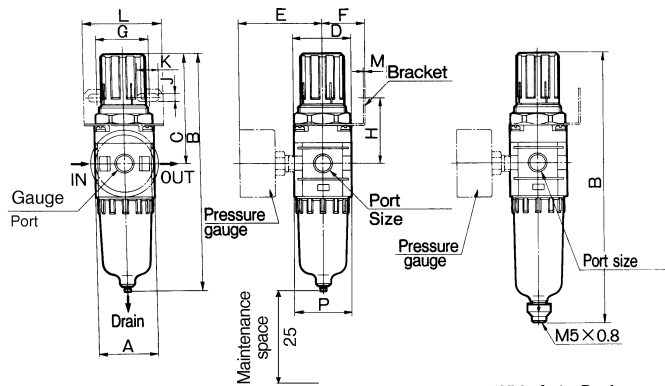
NAW1000, 2000, 3000, 4000

NAW1000•2000

Panel cut hole



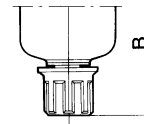
Max. Panel thickness: 9/64" (3.5)



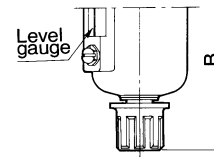
With Auto Drain
(Differential pressure type)

Semi-standard Type/Dimensions

Metal Bowl



Metal bowl with level gauge



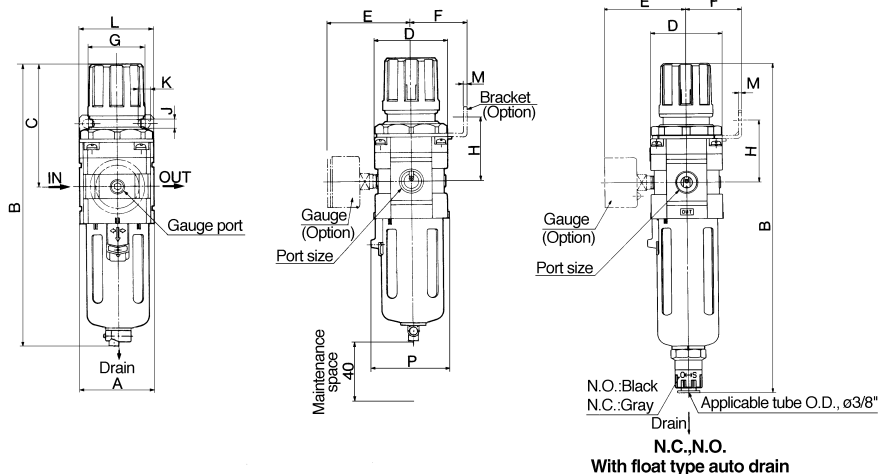
Model	Metal bowl	Metal bowl with level gauge
	B	B
NAW1000	4.31 (109.5)	—
NAW2000	6.48 (164.5)	—
NAW3000	8.68 (220.5)	9.47 (240.5)
NAW4000	10.71 (272)	11.50 (292)
NAW4000-N06	10.89 (276.5)	11.67 (296.5)

NAW3000•4000

Panel mounting hole



NAW3000: Max. panel thickness: 9/64" (3.5)
NAW4000: Max. panel thickness: 13/64" (5)

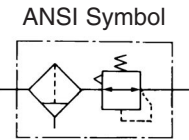


With float type auto drain

Model	Port Size	A	B	C	D	E	With Bracket							N	P	With auto drain	
							F	G	H	J	K	L	M			B	Differential pressure
NAW1000	10-32 Nom. (M5)	.98 (25)	4.31 (109.5)	1.99 (50.5)	.98 (25)	1.02 (26)	.98 (25)	1.10 (28)	1.18 (30)	.18 (4.5)	.26 (6.5)	1.57 (40)	.08 (2.0)	.81 (20.5)	1.10 (28)	—	5.12 (130)
NAW2000	1/8 • 1/4	1.57 (40)	6.48 (164.5)	3.07 (78)	1.57 (40)	2.24 (56.8)	1.18 (30)	1.34 (34)	1.73 (44)	.21 (5.4)	.61 (15.4)	2.17 (55)	.09 (2.3)	1.32 (33.5)	1.57 (40)	—	7.38 (187.5)
NAW3000	1/4 • 3/8	2.09 (53)	8.17 (207.5)	3.64 (92.5)	2.09 (53)	2.39 (60.8)	1.61 (41)	1.57 (40)	1.81 (46)	.26 (6.5)	.31 (8.0)	2.09 (53)	.09 (2.3)	1.67 (42.5)	2.20 (56)	9.78 (248.5)	—
NAW4000	1/4 • 3/8 • 1/2	2.76 (70)	10.20 (259)	4.41 (112)	2.76 (70)	2.78 (70.5)	1.97 (50)	2.13 (54)	2.13 (54)	.33 (8.5)	.41 (10.5)	2.76 (70)	.09 (2.3)	2.07 (52.5)	2.87 (73)	11.81 (300)	—
NAW4000-N06	3/4	2.95 (75)	10.35 (263)	4.49 (114)	2.76 (70)	2.78 (70.5)	1.97 (50)	2.13 (54)	2.20 (56)	.33 (8.5)	.41 (10.5)	2.76 (70)	.09 (2.3)	2.07 (52.5)	2.87 (73)	11.97 (304)	—

- Allows quick relief of air when the supply air is less than set pressure
- Combines the filter and regulator to save space
- Modular design connects with other SMC air preparation equipment

Filter/Regulator with Quick Relief
NAW3050, 4050



Specifications

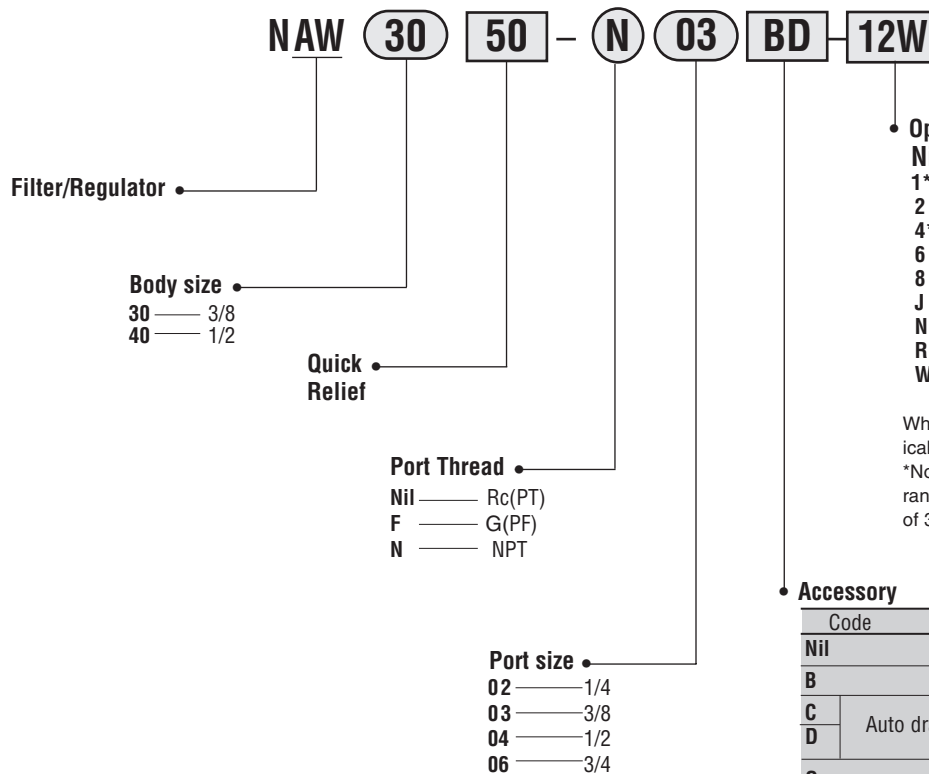
Model	NAW3050	NAW4050	NAW4050-N06
Port Size NPT	1/4 • 3/8	1/4 • 3/8 • 1/2	3/4
Proof supply pressure psig (MPa)	220 (1.5)		
Max. operating pressure psig (MPa)	150 (1.0)		
Regulating range psig (MPa)	7~120 (0.05 ~0.85)		
Gauge Port NPT	1/8	1/4	1/4
Ambient & media Temperature	23° ~140° F (-5° ~ 60° C)		
Filtration	5µm		
Bowl capacity oz. (cm³)	0.78 (23)	1.52 (45)	1.52 (45)
Bowl material	Polycarbonate		
Construction/Regulator	Relieving style		
Weight lbs. (Kgf)	1.23 (0.56)	2.54 (1.15)	2.67 (1.21)
Bowl Guard	STD	●	●

Accessories (Optional)

Name	Part Number		
	NAW3050	NAW4050	NAW4050-N06
Bracket	B320	B420	B420
Pressure Gauge	K40A-MP1.0-N01M	K50A-MP1.0-N02M	K50A-MP1.0-N02M
Auto Drain	N.O.	NAD43	NAD44
	N.C.	NAD53	NAD54

* Minimum Operating Pressure: N.O. - 15 psig, N.C. - 22 psig

How To Order



Optional specifications

- Nil — None
- 1* — 3~30psig (0.02 ~ 0.2 MPa) setting
- 2 — Metal bowl
- 4* — 3~30psig (0.02 ~ 0.4 MPa) setting
- 6 — Nylon bowl
- 8 — Metal bowl with level gauge
- J — Drain guide 1/4 pipe thread
- N — Non-relieving
- R — IN-OUT reversal
- W — Drain cock/with barb fitting for nylon tube (ø6mm OD/ø4mm ID)

When specifying more than one option, please list numerically, then alphabetically.

*Not a maximum setting. Option 1 is more precise in the range of 3~30 psig. Option 2 is more precise in the range of 3~60 psig.

Accessory

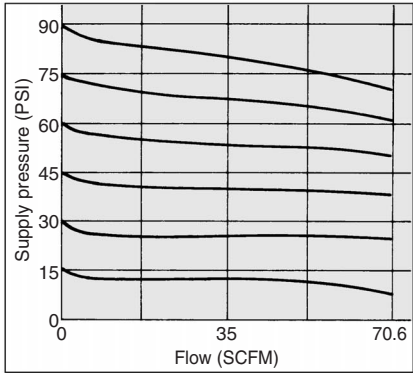
Code	Description
Nil	—
B	Bracket
C	Auto drain
D	
	Float type (N.O.)
G	Pressure gauge

Filter/Regulator with Quick Relief
NAW3050, 4050

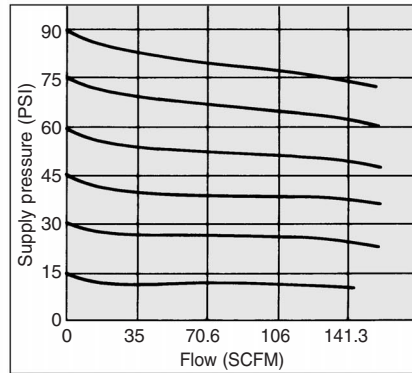
Flow Characteristics

Conditions: Supply pressure 100 psig

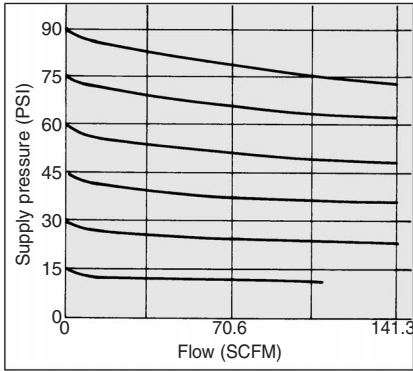
NAW3050 NPT 3/8



NAW4050-06 NPT 3/4



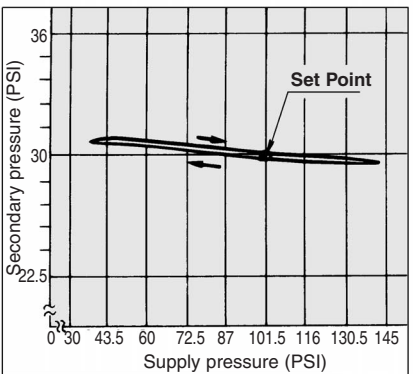
NAW4050 NPT 1/2



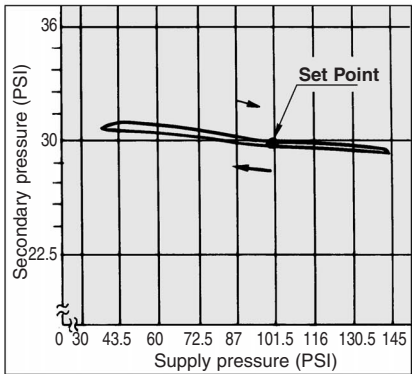
Pressure Characteristics

Conditions—100psi Supply Pressure, 30psi Set Pressure, .71SCFM Flow Rate

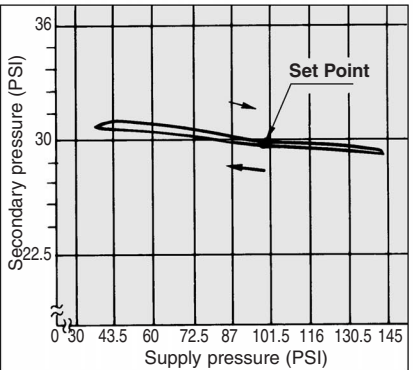
NAW3050 NPT 3/8



NAW4050-06 NPT 3/4



NAW4050 NPT 1/2



Construction/Parts List

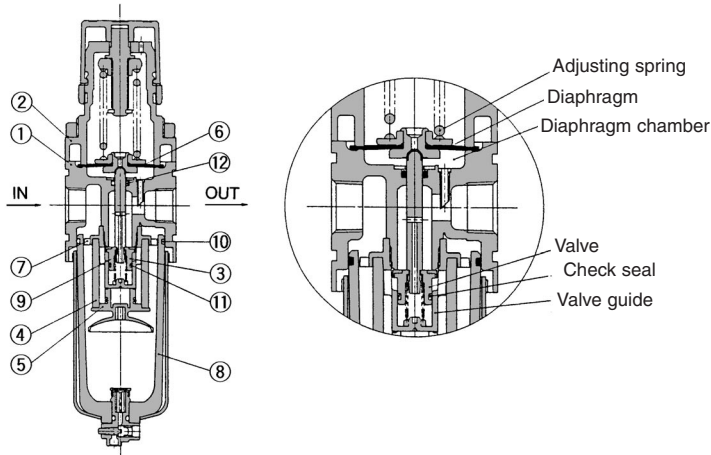
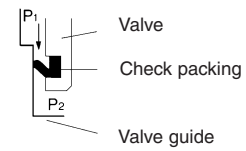
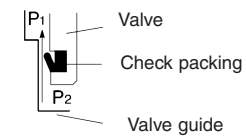


Figure 2



When primary pressure is applied

Figure 3



When primary pressure is exhausted

When primary pressure is higher than set pressure, the check seal opens and the regulator works as a normal pressure relief valve. (See fig. 2). In the bottom valve chamber, the secondary pressure flows through the hole in the valve stem. When the primary pressure is blocked, the check seal folds and the pressure in the bottom valve chamber passes to the primary pressure side (See fig. 3). Because the flow area of the check seal is larger than that of the hole in the valve stem, differential pressure is created between the top and bottom chambers of the valve and the valve opens. The diaphragm is then pushed down by the pressure adjustment spring to let the valve fully open. The secondary pressure then rapidly discharges to the primary pressure side.

Main Parts

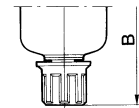
No.	Name	Material			Note
		NAW3050	NAW4050	NAW4050-N06	
1	Body	Aluminum die casting			Platinum silver painting
2	Bonnet	Polyacetal	Aluminum die casting		Black painting

Component Parts List

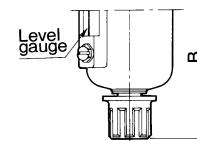
No.	Name	Material	Part No.		
			NAW3050	NAW4050	NAW4050-N06
3	Valve Ass'y	Brass • NBR	1315217A	1316216A	1316217A
4	Filter Element	Bronze	111585	1116103	1116103
5	Baffle	ABS	1315541	1316271	1316271
6	Diaphragm Ass'y	NBR	1315215A	1316211A	1316211A
7	Deflector	ABS	1315540	1316270	1316270
8	Bowl Ass'y	Polycarbonate	NC300F	NC400F	NC400F
9	Valve Spring	Stainless Steel	131525	1316173	1316173
10	Bowl O-ring	NBR	111512	111636	111636
11	Valve O-ring	NBR	131591	131695	131695
12	O-ring	NBR	JIS B2401P5	P5	P5

Semi-standard Type/Dimensions

Metal Bowl

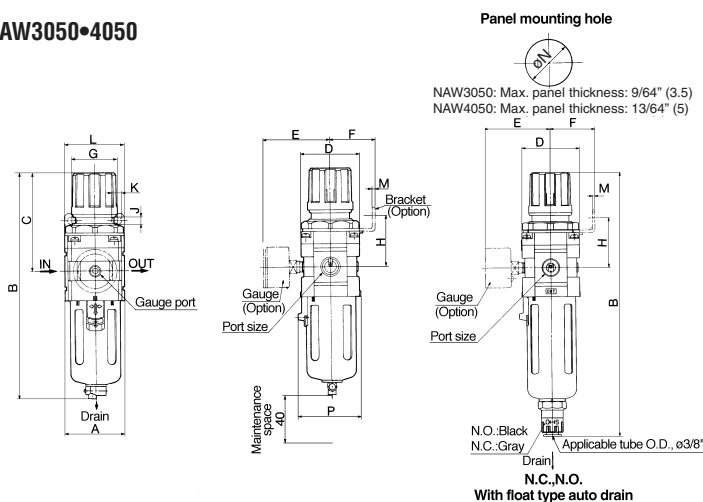


Metal bowl with level gauge



Model	Metal bowl	Metal bowl with level gauge
	B	B
NAW3050	8.68 (220.5)	9.47 (240.5)
NAW4050	10.71 (272)	11.50 (292)
NAW4050-N06	10.89 (276.5)	11.67 (296.5)

NAW3050•4050



Model	Port size	A	B	C	D	E	With Bracket							N	P	w/ auto drain Float Type B
							F	G	H	J	K	L	M			
NAW3050	1/4 • 3/8	2.09 (53)	8.17 (207.5)	3.64 (92.5)	2.09 (53)	2.44 (62)	1.61 (41)	1.57 (40)	1.81 (46)	.26 (6.5)	.31 (8)	2.09 (53)	.09 (2.3)	1.67 (42.5)	2.20 (56)	9.78 (248.5)
NAW4050	1/4 • 3/8 • 1/2	2.76 (70)	10.20 (259)	4.41 (112)	2.76 (70)	2.76 (70)	1.97 (50)	2.13 (54)	2.13 (54)	.33 (8.5)	.41 (10.5)	2.76 (70)	.09 (2.3)	2.07 (52.5)	2.87 (73)	11.81 (300)
NAW4050-N06	3/4	2.93 (75)	10.35 (263)	4.49 (114)	2.76 (70)	2.91 (74)	1.97 (50)	2.20 (56)	2.20 (56)	.33 (8.5)	.41 (10.5)	2.76 (70)	.09 (2.3)	2.07 (52.5)	2.87 (73)	11.97 (304)

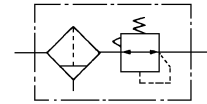
Mist Separator/Regulator

NAWM2000, 3000, 4000



- Combination Mist Separator/Regulator that provides 0.3µm filtration.
- Combination of the Mist Separator and Regulator saves space.
- Modular design connects with other SMC air preparation equipment.

ANSI Symbol



NAWM4000-N04



NAWM2000-N02-C

Specifications

Model	NAWM2000	NAWM3000	NAWM4000
Port size NPT	1/8 • 1/4	1/4 • 3/8	1/4 • 3/8 • 1/2
Proof pressure psig (MPa)	220 (1.5)		
Max. operating pressure psig (MPa)	150 (1.0)		
Regulating range psig (MPa)	7 ~ 120 (0.05 ~ 0.85)		
Gauge connecting port	1/8 NPT	1/8 NPT	1/4 NPT
Ambient & media temperature	23° ~ 140° F (-5 ~ 60° C)		
Filtration	0.3µm		
Flow capacity SCFM*	5.3	11.7	29
Bowl material	Polycarbonate		
Construction/Regulator	Relieving style		
Weight lbs. (kgf)	.97 (0.44)	1.3 (0.59)	2.76 (1.25)
Bowl guard-STD	●	●	●

* Supply Pressure = 70 psig



NAWM3000-N03BG



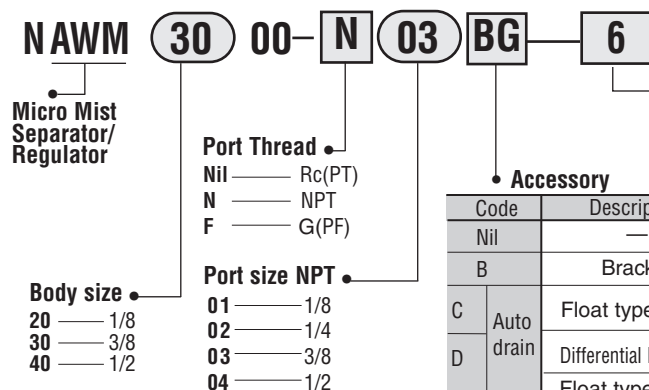
NAWM2000-N02BG-C

Accessories (Optional)

Name	Part No.		
	NAWM2000	NAWM3000	NAWM4000
Bracket	B220	B320	B420
Pressure gauge	K40A-MP1.0-N01M	K40A-MP1.0-N01M	K50A-MP1.0-N02M
Float Auto drain*	N.O.	NAD43	NAD44
	N.C.	NAD53	NAD54
Differential pressure auto drain	NAD62-C	—	—

* Min. operating pressure: N.O.–15 psig, N.C.– 22 psig.

How To Order



Code	Description	Applicable model	
Nil	—	—	
B	Bracket	NAWM2000-NAWM4000	
C	Auto drain	Float type (N.C.)	NAWM3000-NAWM4000
		Differential Pressure	NAWM2000
D	Auto drain	Float type (N.O.)	NAWM3000-NAWM4000
		Pressure Gauge	NAWM2000-NAWM4000

Optional specifications

- Nil — None
- 1* — 3-30psig (0.02 ~ 0.2MPa) setting
- 2 — Metal bowl
- 4* — 3-30psig (0.02 ~ 0.4MPa) setting
- 6 — Nylon bowl
- 8 — Metal bowl with level gauge (only NAWM3000•NAWM4000)
- C — With bowl guard (Only NAWM2000)
- J — Drain Guide 1/4 Pipe Thread
- N — Non-relieving
- R — IN-OUT reversal
- W — Drain Cock with Barb Fitting for Nylon tube (ø6mm OD/ø4mm ID)

When specifying more than one option, please list numerically, then alphabetically.
 *Not a maximum setting. Option 1 is more precise in the range of 3-30 psig. Option 4 is more precise in the range of 3-60 psig.

- ▼ Combination
- No Combination
- Refer to "How to Order"

Accessories and Combinations

Accessories	Suffix	D	D	C	1	2	4	6	8	C	J	N	R	W	Applicable Model		
															NAWD2000	NAWD3000	NAWD4000
Differential pressure auto drain	D				▼	▼	▼	▼	●	●	▼	▼	▼	▼	▼	▼	▼
Float auto drain (N.O)	D				▼	▼	▼	▼	●		▼	▼	▼	▼	▼	▼	▼
Float auto drain (N.C)	C				▼	▼	▼	▼	●		▼	▼	▼	▼	▼	▼	▼
3 ~ 30 psi (0.02 ~ 0.2 MPa)	-1	▼	▼	▼		▼		▼	●	●	●	▼	▼	●	▼	▼	▼
Metal bowl	-2	▼	▼	▼	▼	▼	▼	▼		●	●	▼	▼	▼	▼	▼	▼
3 ~ 60 psi (0.02 ~ 0.4 MPa)	-4	▼	▼	▼	▼	▼	▼	▼	●	●	●	▼	▼	●	▼	▼	▼
Nylon bowl	-6	▼	▼	▼	▼	▼	▼	▼		●	●	▼	▼	●	▼	▼	▼
Metal bowl with level gauge	-8		▼	▼	▼	▼	▼	▼		●	●	▼	▼	▼	▼	▼	▼
With bowl guard	-C	▼			▼	▼	▼	▼				▼	▼	▼	▼	▼	▼
Drain guide (1/4)	-J				▼	▼	▼	▼	●		▼	▼	▼	▼	▼	▼	▼
Non-relieving	-N	▼	▼	▼	▼	▼	▼	▼	●	●	●	▼	▼	●	▼	▼	▼
IN-OUT reversal (Right - Left)	-R	▼	▼	▼	▼	▼	▼	▼	●	●	●	▼	▼	●	▼	▼	▼
With barb fitting	-W				▼	▼	▼	▼				▼	▼		▼	▼	▼

Setting

- 1 The adjustment knob is a locking type. Pull the knob away from the body until the orange band is visible. Adjust as necessary and push the knob back into its locked position to prevent accidental setting change.



- 2 Clockwise rotation of the knob results in a pressure increase and vice-versa.
- 3 Check supply pressure before adjusting pressure.

Precautions

<Installation>

- 1 Air flush piping before installation.
- 2 Use of the piping adaptors will ease installation.

<Atmosphere>

Polycarbonate bowls may be damaged and possibly fail if exposed to synthetic oils, thinner solvents, trichlorethylene, kerosene and other aromatic hydrocarbons. If used in above atmosphere, please use a metal bowl.

<Auto Drain>

Float type (Normally open)

- 1 Drain line should be 5/16 in. (8mm) or more and should be less than 16.5 ft. (5m). Be sure not to have any upward turns in the drain line which would prevent drainage.
- 2 Unsuitable for flow below 3.5 scfm(100Nℓ/min).
- 3 Min. operating pressure 15 psig (0.1 MPa).

Float type (Normally closed)

- 1 Suitable for a compressor with capacity lower than 0.75kw.
- 2 Min. operating pressure 22 psig (0.15 MPa).
- 3 Drain piping should be 5/32 in. (4mm) or greater and also less than 16.5 ft. (5m) in length.
- 4 Install vertically.

Differential type

- 1 Min. operating pressure 15 psig (0.1 MPa).
- 2 Soft nylon tube of more than 3/32 in. (2.5mm) is recommended for drain piping. The overall length should be less than 16.5 ft. (5m). Be sure not to have any upward turns in the piping.
- 3 Install vertically.

Maintenance

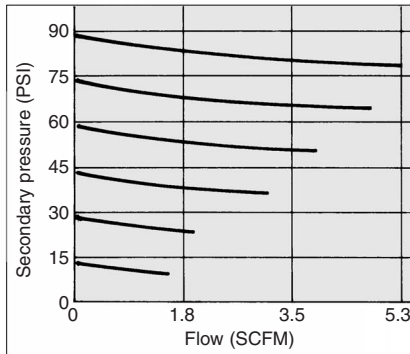
Filter element to be changed after 1 year of when a pressure drop of 15 psi (0.1 MPa) is reached.

Mist Separator/Regulator

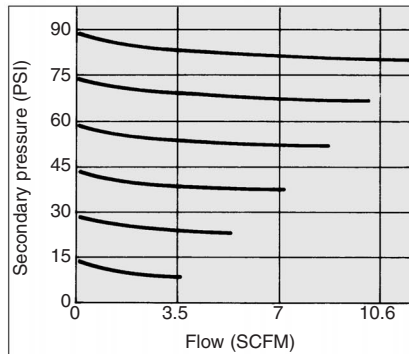
NAWM2000, 3000, 4000

Conditions: Supply pressure - 100 PSI

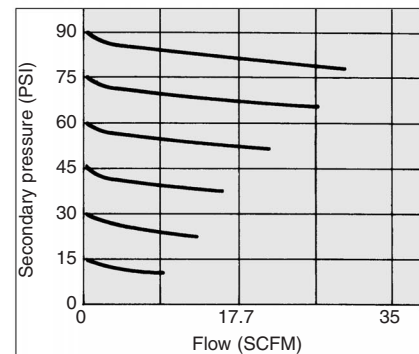
NAWM2000 NPT 1/4



NAWM3000 NPT 3/8

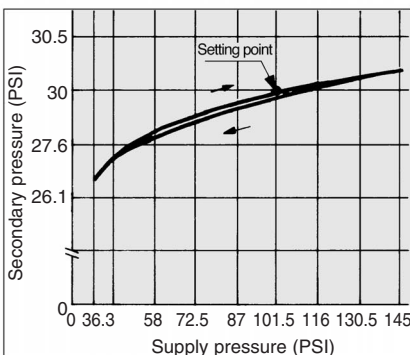


NAWM4000 NPT 1/2

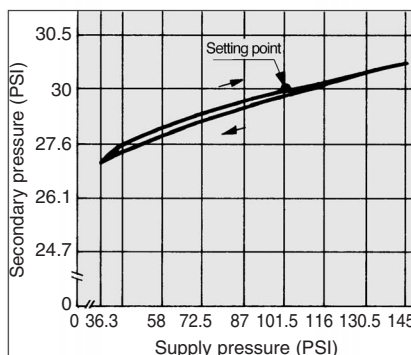


Conditions—100psi Supply Pressure, 30psi Set Pressure, .71SCFM Flow Rate

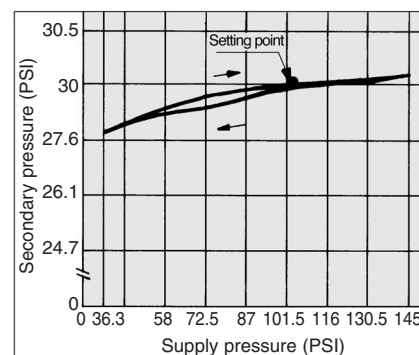
NAWM2000 NPT 1/4



NAWM3000 NPT 3/8

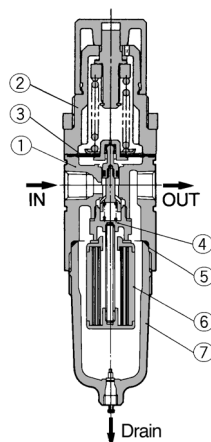


NAWM4000 NPT 1/2

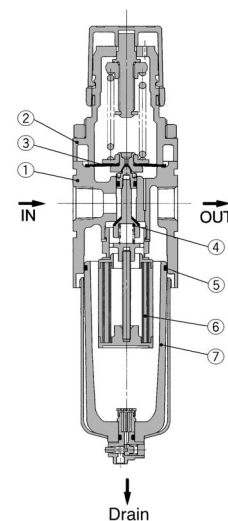


Construction/Parts List

NAWM2000



NAWM3000•4000



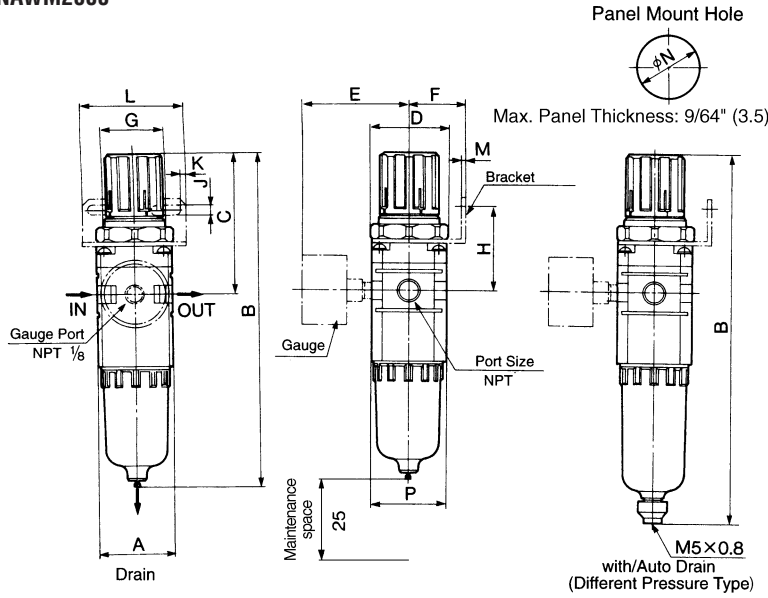
Main Parts

No.	Name	Material			Note
		NAWM2000	NAWM3000	NAWM4000	
①	Body	Zinc Die Cast	Aluminum Die Cast		Platinum silver painting
②	Bonnet	Polyacetal		Aluminum Die Cast	Black painting

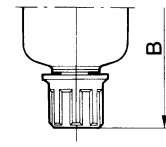
Component Parts List

No.	Parts Name	Material	Part No.		
			NAWM2000	NAWM3000	NAWM4000
③	Diaphragm ass'y	NBR	1349161A	131515A	131614A
④	Valve Guide	ZDC	131426	131565	131665
⑤	Bowl O-ring	NBR	11297	111512	111636
⑥	Element Ass'y	-	630611	630617	630623
⑦	Bowl and Guard Ass'y	Polycarbonate/SPC	NC200F-C	NC300F	NC400F

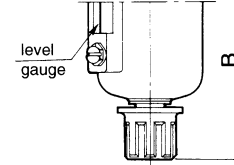
NAWM2000



with metal bowl



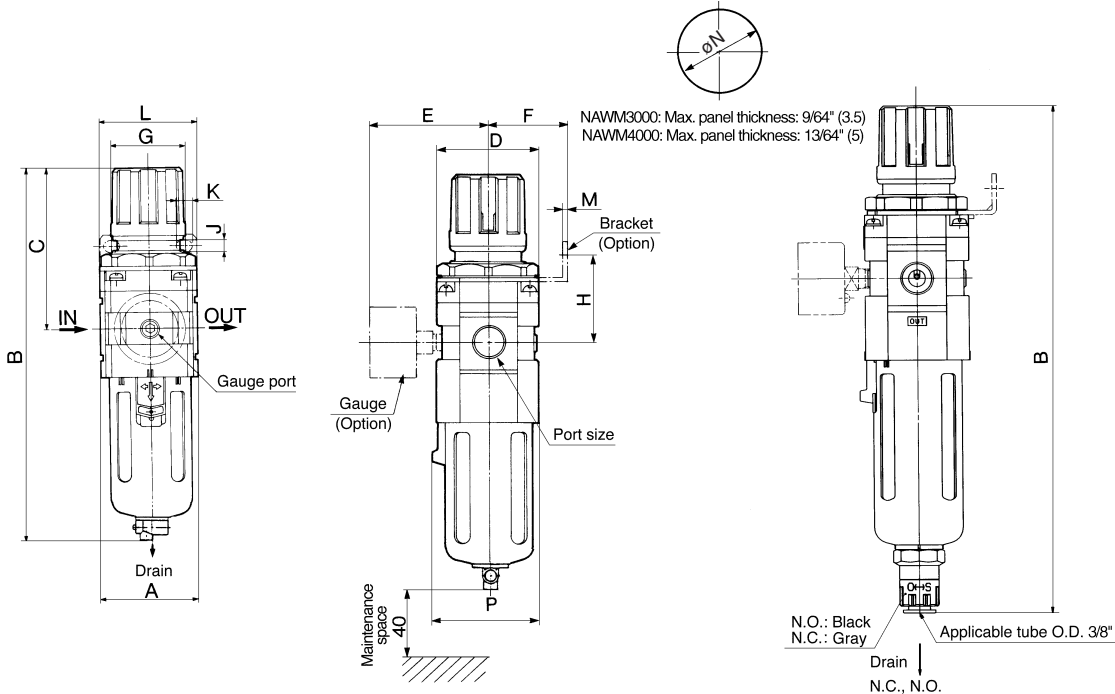
metal bowl with level gauge



Model	Metal bowl	Metal bowl with level gauge
	B	B
NAWM2000	54.71 (179.5)	—
NAWM3000	71.78 (235.5)	77.87 (255.5)
NAWM4000	87.47 (287)	93.57 (307)

NAWM3000 • 4000

Panel mounting hole



With float type auto drain

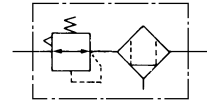
Model	Port Size NPT	A	B	C	D	E	With Bracket							N	P	With Auto Drain	
							F	G	H	J	K	L	M			Float	Differential Pressure
							B	B									
NAWM2000	1/8 • 1/4	1.57 (40)	7.07 (179.5)	3.07 (78)	1.69 (43)	2.28 (58)	1.18 (30)	1.34 (34)	1.73 (44)	.21 (5.4)	.61 (15.4)	2.17 (55)	.09 (2.3)	1.32 (33.5)	1.57 (40)	—	7.93 (201.5)
NAWM3000	1/4 • 3/8	2.09 (53)	8.76 (222.5)	3.64 (92.5)	2.09 (53)	2.44 (62)	1.61 (41)	1.57 (40)	1.81 (46)	.26 (6.5)	.31 (8.0)	2.09 (53)	.09 (2.3)	1.67 (42.5)	2.20 (56)	10.37 (263.5)	—
NAWM4000	1/4 • 3/8 • 1/2	2.76 (70)	10.79 (274)	4.41 (112)	2.76 (70)	2.76 (70)	1.97 (50)	1.97 (50)	2.13 (54)	.33 (8.5)	.41 (10.5)	2.76 (70)	.09 (2.3)	2.07 (52.5)	2.87 (73)	12.40 (315)	—

Micro Mist Separator/Regulator
NAWD2000, 3000, 4000

- Combination Micro Mist Separator/Regulator that provides 0.01µm filtration
- Combination Micro Mist Separator/Regulator saves space
- Use for instrumentation quality air
- Modular design connects with other SMC air preparation equipment



ANSI Symbol



NAWD3000-N03



NAWD2000-N02



NAWD3000-N03BG



NAWD2000-N02BG-C

Specifications

Model	NAWD2000	NAWD3000	NAWD4000
Port size NPT	1/8 • 1/4	1/4 • 3/8	1/4 • 3/8 • 1/2
Proof pressure psig (MPa)	220 (1.5)		
Max. operating pressure psig (MPa)	150 (1.0)		
Regulating range psig (MPa)	7 ~ 120 (0.05 ~ 0.85)		
Gauge connecting port	1/8 NPT	1/8 NPT	1/4 NPT
Ambient & media temperature	23° ~ 140° F (-5 ~ 60° C)		
Filtration	0.01µm		
Flow capacity SCFM*	3.2	6.4	15.9
Bowl material	Polycarbonate		
Construction/Regulator	Relieving style		
Weight lbs. (kgf)	.97 (0.44)	1.3 (0.59)	2.76 (1.25)
Bowl guard-STD	●	●	●

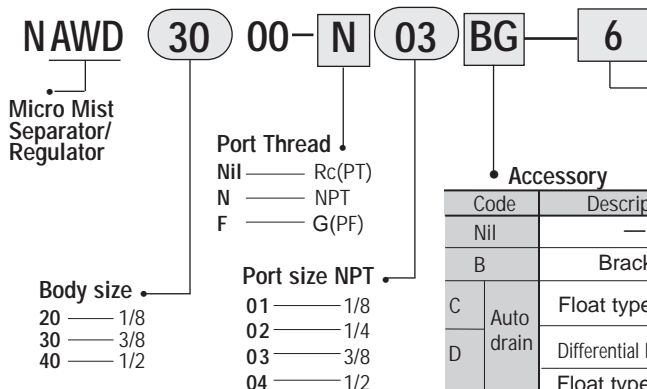
* Supply Pressure = 70 psig

Accessories (Optional)

Type	Part No.		
	NAWD2000	NAWD3000	NAWD4000
Bracket	B220	B320	B420
Pressure gauge	K40A-MP1.0-N01M	K40A-MP1.0-N01M	K50A-MP1.0-N02M
Float auto drain*	N.O.	NAD43	NAD44
	N.C.	NAD53	NAD54
Differential pressure auto drain	NAD62-C	-	-

* Min. operating pressure: N.O.-15 psig, N.C.- 22 psig.

How To Order



Optional specifications

- Nil — None
- 1* — 3-30psig (0.02 ~ 0.2MPa) setting
- 2 — Metal bowl
- 4* — 3-30psig (0.02 ~ 0.4MPa) setting
- 6 — Nylon bowl
- 8 — Metal bowl with level gauge (only NAWD3000-NAWD4000)
- C — With bowl guard (Only NAWD2000)
- J — Drain Guide 1/4 Pipe Thread
- N — Non-relieving
- R — IN-OUT reversal
- W — Drain Cock with Barb Fitting for Nylon tube (ø6mm OD/ø4mm ID)

When specifying more than one option, please list numerically, then alphabetically.
*Not a maximum setting. Option 1 is more precise in the range of 3-30 psig. Option 4 is more precise in the range of 3-60 psig.

Accessories and Combinations

- ▼ Combination
- No Combination
- Refer to "How to Order"

Accessories	Suffix	D	D	C	1	2	4	6	8	C	J	N	R	W	Applicable Model		
															NAWD2000	NAWD3000	NAWD4000
Differential pressure auto drain	D				▼	▼	▼	▼	●	●	▼	▼			▼		
Float auto drain (N.O)	D				▼	▼	▼	▼	●		▼	▼				▼	▼
Float auto drain (N.C)	C				▼	▼	▼	▼	●		▼	▼				▼	▼
3 ~ 30 psi (0.02 ~ 0.2 MPa)	-1	▼	▼	▼		▼		▼	●	●	●	▼	▼	●	▼	▼	▼
Metal bowl	-2	▼	▼	▼	▼		▼				●	▼	▼		▼	▼	▼
3 ~ 60 psi (0.02 ~ 0.4 MPa)	-4	▼	▼	▼	▼		▼		●	●	●	▼	▼	●	▼	▼	▼
Nylon bowl	-6	▼	▼	▼	▼		▼			●	●	▼	▼	●	▼	▼	▼
Metal bowl with level gauge	-8	▼	▼	▼	▼		▼				●	▼	▼		▼	▼	▼
With bowl guard	-C	▼			▼		▼	▼				▼	▼		▼		▼
Drain guide (1/4)	-J				▼	▼	▼	▼	●			▼	▼			▼	▼
Non-relieving type	-N	▼	▼	▼	▼	▼	▼	▼	●	●	●	▼	▼	●	▼	▼	▼
IN-OUT reversal (Right - Left)	-R	▼	▼	▼	▼	▼	▼	▼	●	●	●	▼	▼	●	▼	▼	▼
With barb fitting	-W				▼	▼	▼	▼				▼	▼			▼	▼

Setting

- 1 The adjustment knob is a locking type. Pull the knob away from the body until the orange band is visible. Adjust as necessary and push the knob back into its locked position to prevent accidental setting change.



- 2 Clockwise rotation of the knob results in a pressure increase and vice-versa.
- 3 Check supply pressure before adjusting pressure.

Precautions

<Installation>

- 1 Air flush piping before installation.
- 2 Use of the piping adaptors will ease installation.

<Atmosphere>

Polycarbonate bowls may be damaged and possibly fail if exposed to synthetic oils, thinner solvents, trichlorethylene, kerosene and other aromatic hydrocarbons. If used in above atmospheres, please use a metal bowl.

<Auto Drain>

Float type (Normally open)

- 1 Drain line should be 5/16 in. (8mm) or more and should be less than 16.5 ft. (5m). Be sure not to have any upward turns in the drain line which would prevent drainage.
- 2 Unsuitable for flow below 3.5 scfm(100N/min).
- 3 Min. operating pressure 15 psig (0.1 MPa).

Float type (Normally closed)

- 1 Suitable for a compressor with capacity lower than 0.75kw.
- 2 Min. operating pressure 22 psig (0.15 MPa).
- 3 Drain piping should be 5/32 in. (4mm) or greater and also less than 16.5 ft. (5m) in length.
- 4 Install vertically.

Differential type

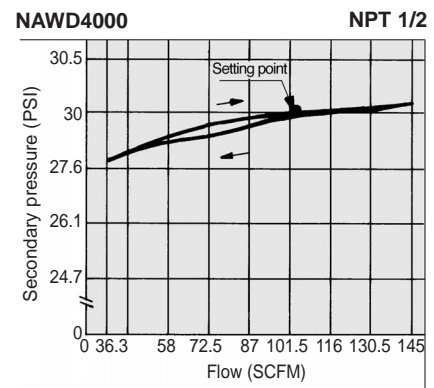
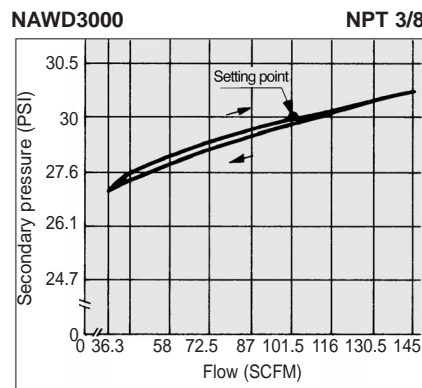
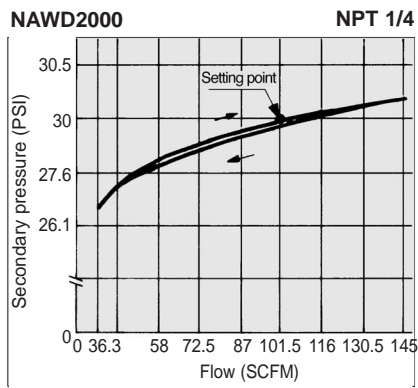
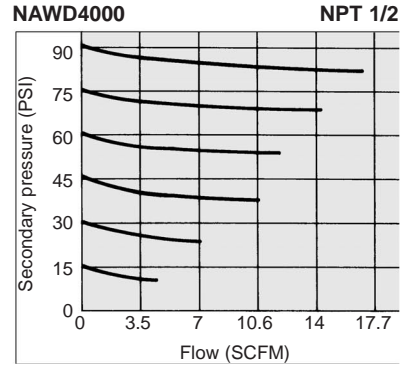
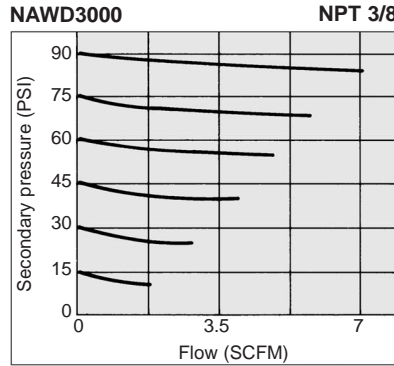
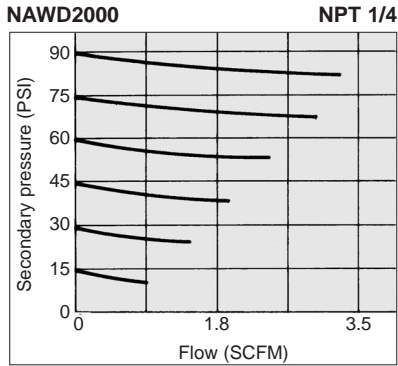
- 1 Min. operating pressure 15 psig (0.1 MPa).
- 2 Soft nylon tube of more than 3/32 in. (2.5mm) is recommended for drain piping. The overall length should be less than 16.5 ft. (5m). Be sure not to have any upward turns in the piping.
- 3 Install vertically.

Maintenance

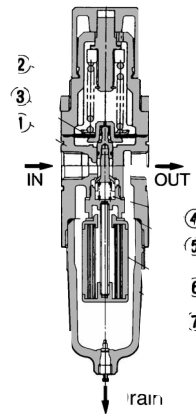
Filter element to be changed after 1 year of when a pressure drop of 15 psi (0.1 MPa) is reached.

Micro Mist Separator/Regulator
NAWD2000, 3000, 4000

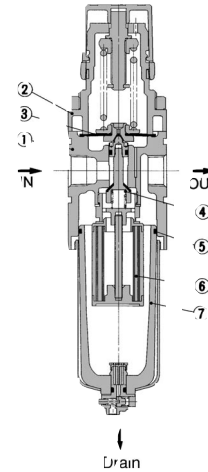
Condition Supply Pressure - 100 PSI



NAWD2000



NAWD3000•4000



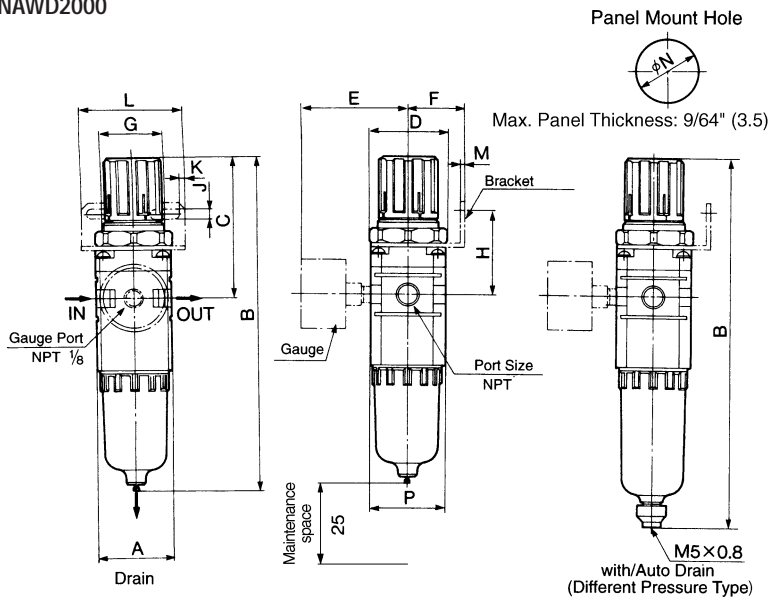
Main Parts

No.	Name	Material			Note
		NAWD2000	NAWD3000	NAWD4000	
①	Body	Zinc Die Cast	Aluminum Die Cast		Platinum silver painting
②	Bonnet	Polyacetal		Aluminum Die Cast	Black painting

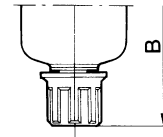
Component Parts List

No.	Parts Name	Material	Part No.		
			NAWD2000	NAWD3000	NAWD4000
③	Diaphragm ass'y	NBR	134916A	131515A	131614A
④	Valve Guide	ZDC	131426	131565	131665
⑤	Bowl O-ring	NBR	11297	111512	11636
⑥	Element ass'y	-	63092	63093	63094
⑦	Bowl and Guard ass'y	Polycarbonate/SPC	NC200F-C	NC300F	NC400F

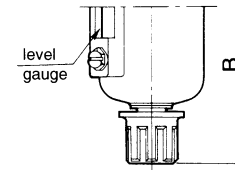
NAWD2000



with metal bowl



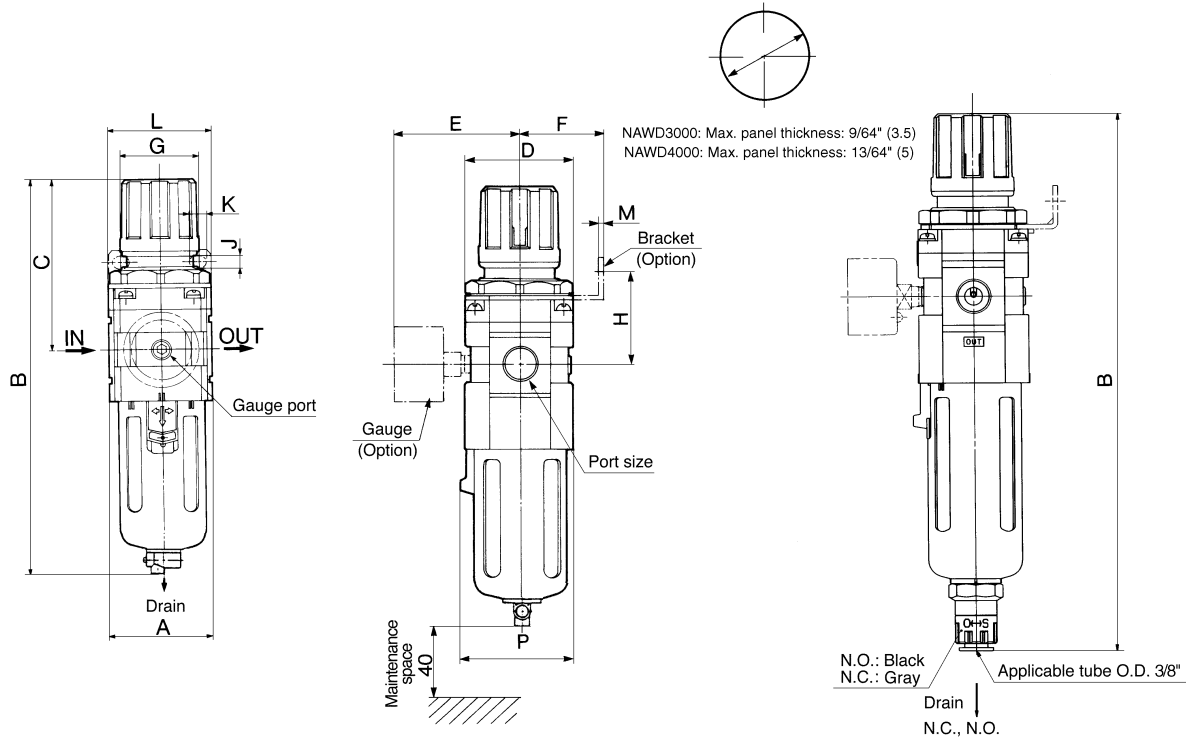
metal bowl with level gauge



Model	Metal bowl	Metal bowl with level gauge
	B	B
NAWD2000	54.71 (179.5)	—
NAWD3000	71.78 (235.5)	77.87 (255.5)
NAWD4000	87.47 (287)	93.57 (307)

NAWD3000 • 4000

Panel mounting hole



Model	Port Size NPT	A	B	C	D	E	With Bracket							N	P	With Auto Drain	
							F	G	H	J	K	L	M			Float	Differential Pressure
							B	B									
NAWD2000	1/8 • 1/4	1.57 (40)	7.07 (179.5)	3.07 (78)	1.69 (43)	2.28 (58)	1.18 (30)	1.34 (34)	1.73 (44)	.21 (5.4)	.61 (15.4)	2.17 (55)	.09 (2.3)	1.32 (33.5)	1.57 (40)	—	7.93 (201.5)
NAWD3000	1/4 • 3/8	2.09 (53)	8.76 (222.5)	3.64 (92.5)	2.09 (53)	2.44 (62)	1.61 (41)	1.57 (40)	1.81 (46)	.26 (6.5)	.31 (8.0)	2.09 (53)	.09 (2.3)	1.67 (42.5)	2.20 (56)	10.37 (263.5)	—
NAWD4000	1/4 • 3/8 • 1/2	2.76 (70)	10.79 (274)	4.41 (112)	2.76 (70)	2.76 (70)	1.97 (50)	1.97 (50)	2.13 (54)	.33 (8.5)	.41 (10.5)	2.76 (70)	.09 (2.3)	2.07 (52.5)	2.87 (73)	12.40 (315)	—

Attachments & Accessories

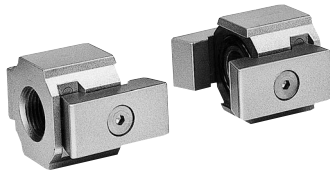
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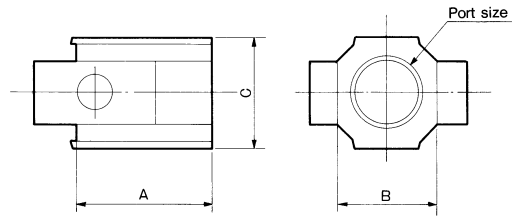
Piping Adaptor

M5x0.8, 1/8•1/4•3/8•1/2•3/4•1

Allows for ease of installation and maintenance.



E30-02



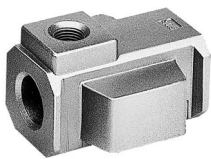
Model	Port size	A	B	C	Applicable model
E10-M5	M5x0.8	.63 (16)	.55 (14)	.69 (17.5)	NAC1000•NAW1000 NAF1000•NAR1000•NAL1000
E20-N01	1/8	.91 (23)	.87 (22)	.87 (22)	NAC2000
E20-N02	1/4				NAF2000•NAR2000•NAW2000 NAL2000•NAFM2000•NAFD2000
E20-N03	3/8	1.02 (26)	1.14 (29)	1.35 (34.2)	NAC2500•NAC3000
E30-N02	1/4				NAF3000•NAR3000•NAW3000 NAL3000•NAFM3000•NAFD3000
E30-N03	3/8	1.57 (40)	1.14 (29)	1.35 (34.2)	NAC4000
E30-N04	1/2				NAF4000•NAR4000•NAW4000
E40-N02	1/4	1.30 (33)	1.38 (35)	1.66 (42.2)	NAL4000•NAFM4000•NAFD4000
E40-N03	3/8				NAC4000-N06•NAC4040-N06 NAF400-N06
E40-N04	1/2	1.97 (50)	1.38 (35)	1.66 (42.2)	NAC5000•NAC5500•NAC6000 NAC5020•NAC5520•NAC6020 NAF5000•NAR5000•NAL5000 NAF6000•NAR6000•NAL6000
E40-N06	3/4				NAC4000-N06•NAC4040-N06 NAF400-N06
E50-N06	3/4	1.42 (36)	1.73 (44)	1.82 (46.2)	
E60-N06	3/4	1.57 (40)	2.13 (54)	2.17 (55.2)	
E60-N10	1				

Inch (mm)

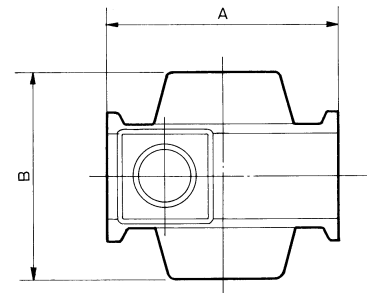
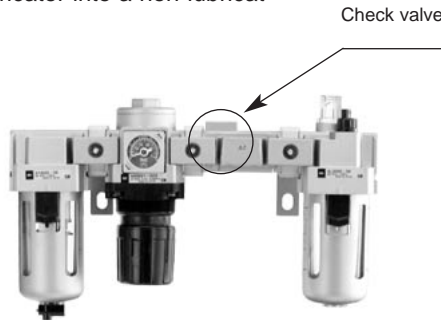
*When piping adaptor with bracket is required, please order as follows.
Example: L-type bracket: E30L-N02
T-type bracket: E30T-N02

Check Valve

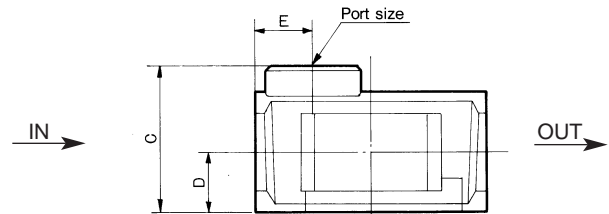
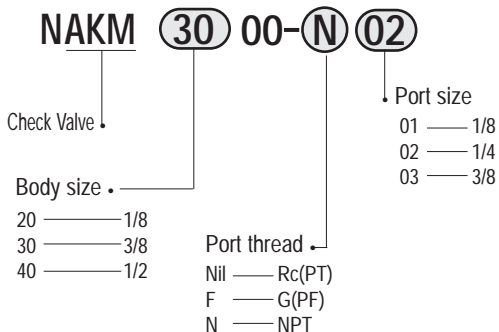
The check valve spacer is designed to prevent back flow of lubricated air from a lubricator into a non-lubricated line.



NAKM3000



How To Order



Model	Port size	A	B	C	D	E	Applicable model
NAKM2000	1/8•1/4	1.57 (40)	1.57 (40)	1.10 (28)	.43 (11)	.43 (11)	NAC2000•NAC2010
NAKM3000	1/8•1/4	2.09 (53)	1.89 (48)	1.34 (34)	.55 (14)	.51 (13)	NAC2500•NAC2510 NAC3000•NAC3010
NAKM4000	1/4•3/8	2.76 (70)	2.13 (54)	1.65 (42)	.71 (18)	.59 (15)	NAC4000•NAC4010

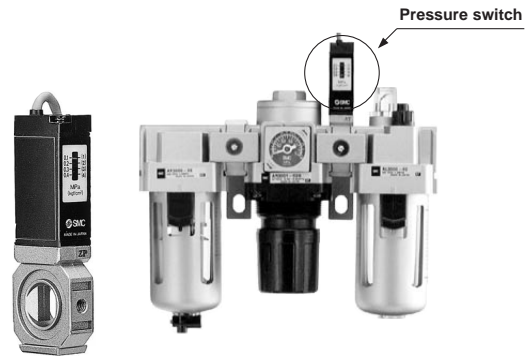
Pressure Switch

Specifications

Fluid	Air
Proof pressure	145 psig (1.0 MPa)
Max. operating pressure	100 psig (0.7 MPa)
Setting range (off)	15~60 psig (0.1 ~ 0.4 MPa)
Differential pressure	Less than 12 psig (0.08 MPa)
Ambient and fluid temperature	40~140° F (5° ~ 60° C)

Characteristics

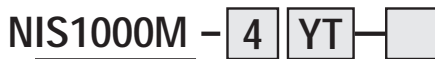
Type of actuation	1a (N.O.)
Switch capacity	AC2VA • DC2W
Operating voltage (AC,DC)	12V, 24V, 48V, 100V
Max. operating current	AC, DC12V~24V: 50mA AC, DC48V: 40mA AC, DC100V: 20mA
Response time	1.2ms



Caution on assembling

The pressure switch can be mounted on both IN and OUT sides on NAF, NAR, NAL, NAFM and NAFL but cannot be mounted in this way on NVHS, NAW, or when the handle of NAR faces upwards.

How To Order



Pressure switch

Body size

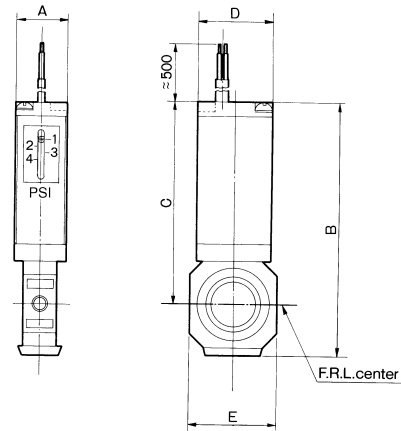
2	NAC2000
3	NAC2500, NAC3000
4	NAC4000-02 to 04
5	NAC4000-N06
6	NAC5000, NAC6000

Option

X201	Length of lead wire:3m
X202	Set pressure range 15~85 PSI (0.1 to 0.6Mpa)

Attachment

—	Without attachment
Y	With attachment
YL	With attachment and L type bracket
YT	With attachment and T type bracket



Attachments for IS1000

Part No. applying to pressure switch	Y type standard	YL type with L type bracket	YT type with T type bracket
NIS1000M-2	Y20M	Y20LM	Y20TM
NIS1000M-3	Y30M	Y30LM	Y30TM
NIS1000M-4	Y40M	Y40LM	Y40TM
NIS1000M-5	Y50M	Y50LM	Y50TM
NIS1000M-6	Y60M	Y60LM	Y60TM

Model	A	B	C	D	E	F	Applicable model
NIS1000M-2Y	.59 (15)	2.89 (73.5)	2.46 (62.6)	.91 (23)	1.10 (28)	.39 (10)	NAC2000• NAC2020• NAC2030
NIS1000M-3Y	.59 (15)	3.23 (82)	2.56 (64.9)	.91 (23)	1.14 (29)	.43 (11)	NAC2500• NAC2520• NAC2530 NAC3000• NAC3020• NAC3030
NIS1000M-4Y	.59 (15)	3.49 (88.7)	2.66 (67.6)	.91 (23)	1.38 (35)	.55 (14)	NAC4000• NAC4020• NAC4030
NIS1000M-5Y	.59 (15)	3.58 (91)	2.68 (68)	.91 (23)	1.73 (44)	.55 (14)	NAC4000-N06• NAC4020-N06 NAC4030-N06
NIS1000M-6Y	.59 (15)	3.94 (100)	2.85 (72.5)	.91 (23)	2.13 (54)	.59 (15)	NAC5000• NAC5500• NAC6000 NAC5020• NAC5520• NAC6020

Pressure Switch with Piping Adaptor



Specifications

Fluid	Air
Proof pressure	145 psig (1.0 MPa)
Max. operating pressure	100 psig (0.7 MPa)
Setting range (off)	15~60 psig (0.1 ~ 0.4 MPa)
Differential pressure	Less than 12 psig (0.08 MPa)
Ambient and fluid temperature	40~140° F (5° ~ 60° C)

Characteristics

Type of actuation	1a (N.O.)
Switch capacity	AC2VA • DC2W
Operating voltage (AC,DC)	12V, 24V, 48V, 100V AC, DC12V~24V: 50mA AC, DC48V: 40mA AC, DC100V: 20mA
Max. operating current	
Response time	1.2ms

Model	Port size	A	B	C	D	E	Applicable model
NIS1000E-2N01Y	1/8						NAC2000• NAC2010 • NAC2020 NAC2030• NAC2040 NAW2000
NIS1000E-2N02Y	1/4	1.10 (28)	2.87 (73)	2.44 (62)	.73 (18.5)	1.10 (28)	
NIS1000E-2N03Y	3/8						
NIS1000E-3N02Y	1/4	1.02 (26)	3.15 (80)	2.48 (63)	.65 (16.5)	1.10 (28)	NAC2500• NAC2520 • NAC2530 NAC3000• NAC3010 • NAC3020• NAC3030• NAC3040 NAW3000
NIS1000E-3N03Y	3/8						
NIS1000E-3N04Y	1/2	1.02 (40)	3.15 (80)	2.48 (63)	.65 (17.5)	1.10 (28)	
NIS1000E-4N02Y	1/4					1.14 (29)	NAC4000• NAC4010 • NAC4020 NAC4030• NAC4040 NAW4000
NIS1000E-4N03Y	3/8	1.30 (33)	3.43 (87)	2.60 (66)	.65 (17.5)	1.38 (35)	
NIS1000E-4N04Y	1/2					1.73 (44)	
NIS1000E-4N06Y	3/4	1.97 (50)	3.43 (87)	2.60 (66)	.65 (17.5)	2.13 (54)	

How To Order

NIS1000E - 3 - 03 YL -

Pressure switch with piping adapter

Body size

2	NAC2000
3	NAC2500, NAC3000
4	NAC4000-02 ~ 04

Thread

—	Rc(PT)
N	NPT
F	G(PF)

Option

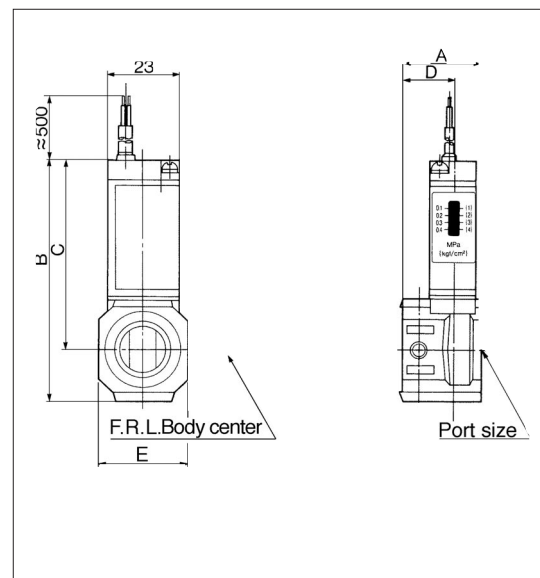
X201	Length of lead wire:3m
X202	Set pressure range 15-85 PSI (0.1 to 0.6Mpa)
X250	Reverse mounting (Left side mounting)

Attachment

—	Without attachment
Y	With attachment
YL	With attachment & L type bracket
YT	With attachment & T type bracket

Piping adaptor port size

01	1/8
02	1/4
03	3/8
04	1/2
06	3/4

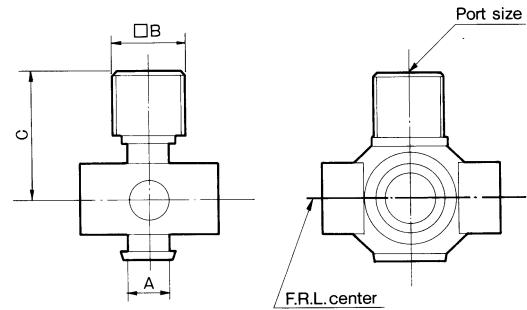
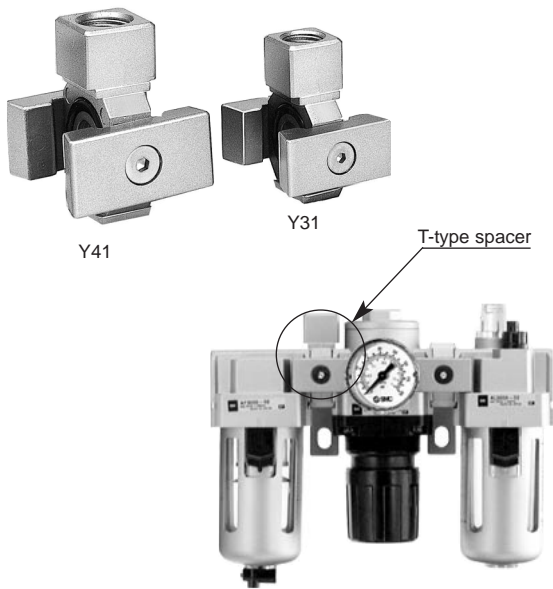


Attachments for IS1000

Parts No. applying pressure switch	Y type standard	YL type with L type bracket	YT type with T type bracket
NIS1000E-N01 ~ N03	Y20E	Y20LE	Y20TE
NIS1000E-N02 ~ N04	Y30E	Y30LE	Y30TE
NIS1000E-N02 ~ N06	Y40E	Y40LE	Y40TE

T-Type Spacer

M5x0.8, 1/8•1/4•3/8•1/2

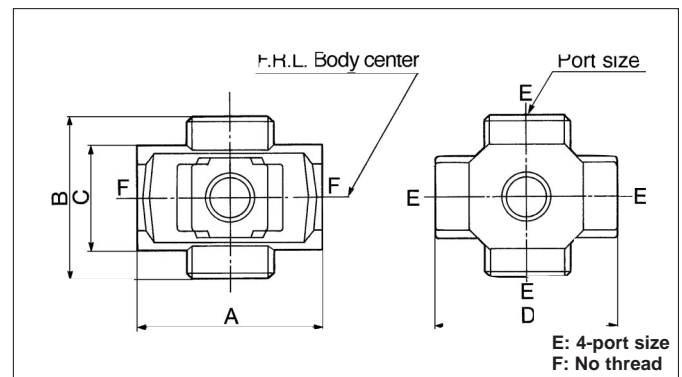
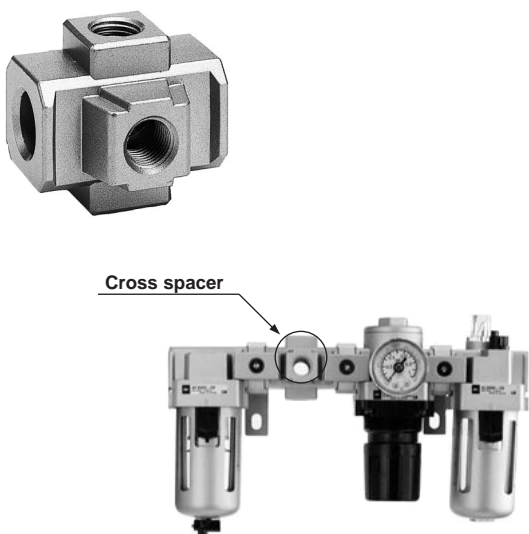


Model	Port size	A	B	C	Applicable model
Y11-M5	M5x0.8	.31 (8)	.31 (8)	.47 (12)	NAC1000•NAC1020
Y21-N01	1/8	.39 (10)	.75 (19)	1.14 (29)	NAC2000•NAC2020•NAC2030
Y21-N02	1/4				
Y31-N01	1/8	.43 (11)	.75 (19)	1.30 (33)	NAC2500•NAC2520•NAC2530 NAC3000•NAC3020•NAC3030
Y31-N02	1/4				
Y41-N02	1/4	.55 (14)	.94 (24)	1.54 (39)	NAC4000•NAC4020•NAC4030
Y41-N03	3/8				
Y51-N02	1/4	.55 (14)	.94 (24)	1.61 (41)	NAC4000-N06•NAC4020-N06 NAC4030-N06
Y51-N03	3/8				
Y61-N03	3/8	.59 (15)	1.18 (30)	1.99 (50.5)	NAC5000•NAC5020•NAC5500 NAC5520•NAC6000•NAC6020
Y61-N04	1/2				

*When T-type spacer with bracket is required, please order as follows.
 Example: L-type bracket:YOIL-N00
 T-type bracket:YOIT-N00

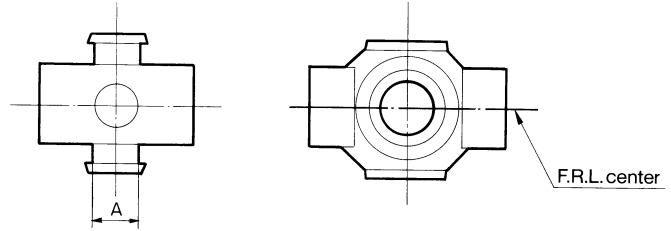
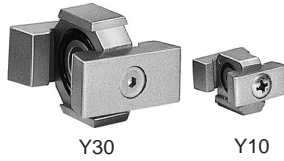
Cross Spacer

M5x0.8,1/8•1/4•3/8•1/2



Model	Port size	A	B	C	D	Applicable model
Y14-M5	M5 x 0.8	.91 (23)	.63 (16)	.55 (14)	.98 (25)	NAC1000•NAC1010•NAC1020
Y24-N01	1/8	1.57 (40)	1.57 (40)	.87 (22)	1.57 (40)	NAC2000•NAC2010•NAC2020 NAC2030•NAC2040
Y24-N02	1/4					
Y34-N01	1/8	1.93 (49)	1.69 (43)	1.10 (28)	1.89 (48)	NAC2500•NAC2520•NAC2530 NAC3000•NAC3010•NAC3020 NAC3030•NAC3040
Y34-N02	1/4					
Y44-N02	1/4	2.36 (60)	1.89 (48)	1.42 (36)	2.13 (54)	NAC4000•NAC4010•NAC4020 NAC4030•NAC4040
Y44-N03	3/8					
Y54-N03	3/8	2.83 (72)	2.44 (62)	1.57 (40)	2.44 (62)	NAC4000-N06•NAC4010-N06 NAC4020-N06•NAC4030-N06 NAC4040-N06
Y54-N04	1/2					

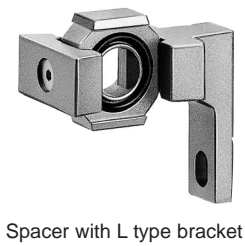
Spacer



Inch (mm)

Model	A	Applicable model
Y10	.31 (8)	NAC1000 ~ NAC1020
Y20	.39 (10)	NAC2000 ~ NAC2040
Y30	.43 (11)	NAC2500 ~ NAC2540 NAC3000 ~ NAC3040
Y40	.55 (14)	NAC4000 ~ NAC4040
Y50	.55 (14)	NAC4000-N06 ~ NAC4040-N06
Y60	.59 (15)	NAC5000, NAC5500, NAC6000 NAC5020, NAC5520, NAC6020

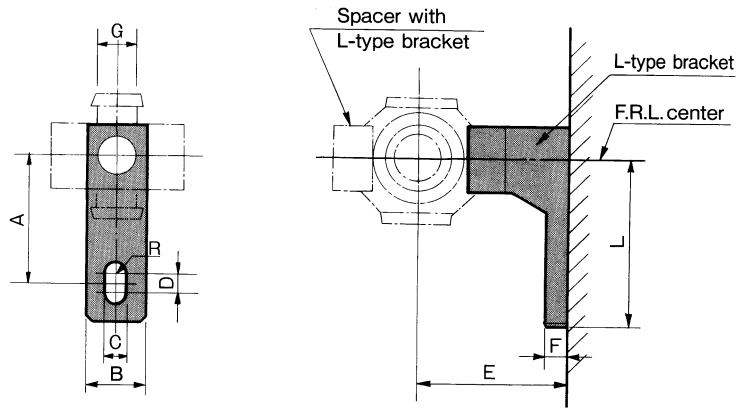
Spacer With L-type Bracket



Spacer with L type bracket



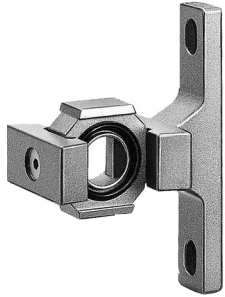
L type bracket



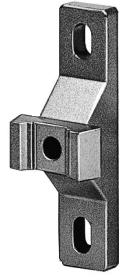
Inch (mm)

L-type Bracket	Spacer with L-type Bracket	A	B	C	D	E	F	G	R	L	Applicable model
B110L	Y10L	.79 (20)	.47 (12)	.18 (4.5)	.12 (3)	.98 (25)	.20 (5)	.31 (8)	.09 (2.25)	1.06 (27)	NAC1000~NAC1020
B210L	Y20L	.94 (24)	.59 (15)	.22 (5.5)	.12 (3)	1.18 (30)	.20 (5)	.39 (10)	.11 (2.75)	1.30 (33)	NAC2000~NAC2040
B310L	Y30L	1.38 (35)	.63 (16)	.28 (7)	.16 (4)	1.61 (41)	.28 (7)	.43 (11)	.14 (3.50)	1.77 (45)	NAC2500~NAC2540 NAC3000~NAC3040
B410L	Y40L	1.57 (40)	.87 (22)	.35 (9)	.16 (4)	1.97 (50)	.28 (7)	.55 (14)	1.18 (4.5)	1.97 (50)	NAC4000~NAC4040
B510L	Y50L	1.57 (40)	.87 (22)	.35 (9)	.16 (4)	1.97 (50)	.28 (7)	.55 (14)	1.18 (4.5)	1.97 (50)	NAC4000-N06~NAC4040-N06
B610L	Y60L	1.97 (50)	.94 (24)	.47 (12)	.16 (4)	2.76 (70)	.39 (10)	.59 (15)	.24 (6)	2.46 (62.5)	NAC5000•NAC5500•NAC6000 NAC5020•NAC5520•NAC6020

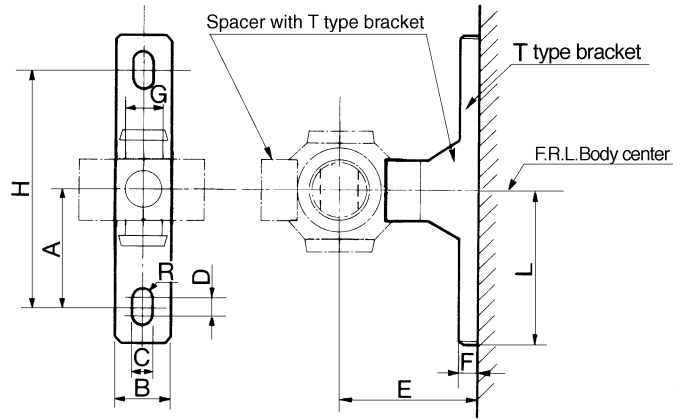
Spacer with T-type Bracket



Spacer with T-type Bracket



T-type Bracket



Inch (mm)

T-type Bracket	Spacer with T-type Bracket	A	B	C	D	E	F	G	H	R	L	Applicable model
B110T	Y10T	.79 (20)	.47 (12)	.18 (4.5)	.12 (3)	.98 (25)	.20 (5)	.31 (8)	1.57 (40)	.09 (2.25)	1.06 (27)	NAC1000~NAC1020
B210T	Y20T	.94 (24)	.59 (15)	.22 (5.5)	.12 (3)	1.18 (30)	.20 (5)	.39 (10)	1.89 (48)	.11 (2.75)	1.30 (33)	NAC2000~NAC2040
B310T	Y30T	1.38 (35)	.63 (16)	.28 (7)	.16 (4)	1.61 (41)	.28 (7)	.43 (11)	2.76 (70)	.14 (3.50)	1.77 (45)	NAC2500~NAC2540 NAC3000~NAC3040
B410T	Y40T	1.57 (40)	.87 (22)	.35 (9)	.16 (4)	1.97 (50)	.28 (7)	.55 (14)	3.15 (80)	1.18 (4.5)	1.97 (50)	NAC4000~NAC4040
B510T	Y50T	1.57 (40)	.87 (22)	.35 (9)	.16 (4)	1.97 (50)	.28 (7)	.55 (14)	3.15 (80)	1.18 (4.5)	1.97 (50)	NAC4000-N06~NAC4040-N06
B610T	Y60T	1.97 (50)	.94 (24)	.47 (12)	.16 (4)	2.76 (70)	.39 (10)	.59 (15)	3.94 (100)	.24 (6)	2.46 (62.5)	NAC5000• NAC5500• NAC6000 NAC5020• NAC5520• NAC6020

ANSI Symbol



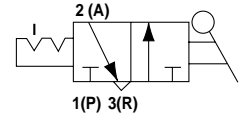
NVHS5500

NVHS4500

3 Port Valve with Lock-Out Capability

OSHA rule 29 CFR1910.147 requires energy sources for certain equipment be turned off or disconnected and that the device either be locked or labeled with a warning tag. This would require certain pneumatically operated equipment to have a pneumatic energy isolating device (air valve).

Series NVHS Valves provide a means to prevent accidental start-ups while personnel are cleaning or servicing equipment. When in the exhaust position, the valve may be padlock secured. A window displays when the valve is in supply or exhaust position.



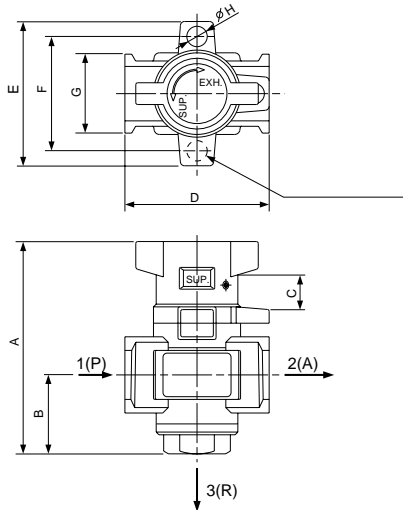
Specifications

Media	Air									
Proof Pressure (MPa)	220 psig (1.5)									
Operating Pressure (MPa)	15~150 psig (0.1~1.0)									
Ambient Fluid Temperature	23° ~140° F (-5° ~60° C)									
Model	NVHS2500		NVHS3500		NVHS4500			NVHS5500		
Port Size	1 (P), 2 (A)	1/8	1/4	1/4	3/8	1/4	3/8	1/2	3/4	1
	3 (R)	1/8		1/4		3/8			1/2	
Effective Orifice mm ² (Cv)	1 (P) → 2 (A)	10 (0.56)	14 (0.78)	16 (0.89)	31 (1.72)	22 (1.22)	38 (2.11)	57 (3.17)	110 (6.11)	130 (7.22)
	2 (A) → 3 (R)	11 (0.61)	16 (0.89)	14 (0.78)	29 (1.61)	15 (0.83)	51 (1.61)	51 (2.83)	33 (1.83)	40 (2.22)
Weight lbs. (kgf)	.42 (0.19)		.55 (0.25)		.79 (0.36)			1.83 (0.83)		

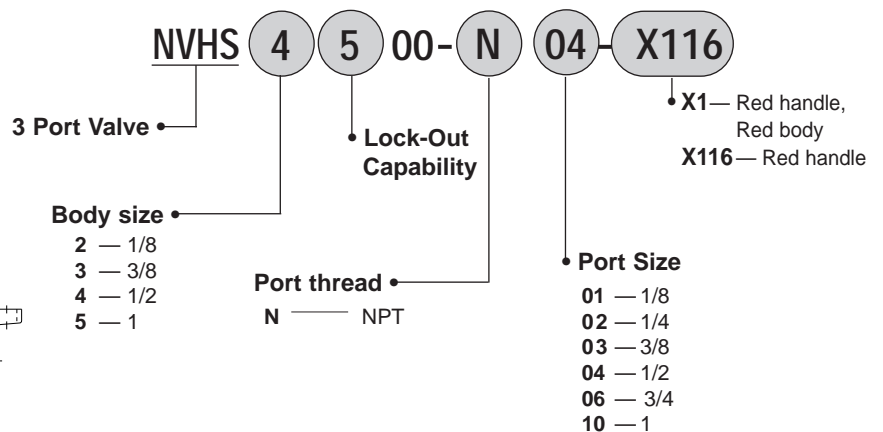
Accessories - Exhaust Silencer

Model	Port Size	Use With	Noise Reduction	Cv
NAN110-N01	1/8" NPT	NVHS2500	21 dB or more	1.9
NAN200-N02	1/4" NPT	NVHS3500	30 dB or more	1.9
NAN300-N03	3/8" NPT	NVHS4500	30 dB or more	3.3
NAN400-N04	1/2" NPT	NVHS5500		5.0
NVHS-OG-80	Lockout (6 locks) 1" Hasp; 7/16" Diameter Holes			

Dimensions



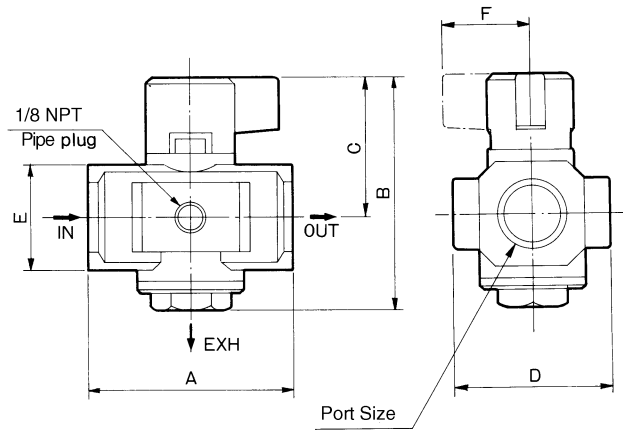
How To Order



Model	A	B	C	D	E	F	G	H
NVHS2500	2.36 (60)	.79 (20)	.50 (12.8)	1.57 (40)	1.73 (44)	1.30 (33)	1.10 (28)	.30 (7.5)
NVHS3500	3.07 (78)	1.14 (29)	.50 (12.8)	2.09 (53)	2.09 (53)	1.65 (42)	1.14 (29)	.30 (7.5)
NVHS4500	3.35 (85)	1.26 (32)	.50 (12.8)	2.76 (70)	2.52 (64)	1.93 (49)	1.42 (36)	.39 (10)
NVHS5500	5.35 (136)	2.20 (56)	1.26 (32)	3.54 (90)	3.15 (80)	2.56 (65)	2.13 (54)	.39 (10)

3-Port Relieving Shut-off Valve

This shut-off valve relieves the downstream pressure for servicing. This unit does not have padlock capabilities.



How To Order

NVHS (30) 00-N (02)

- 3-Port relieving shut-off valve
- Body size
 - 20 — 1/8
 - 30 — 3/8
 - 40 — 1/2
- Port size
 - 01 — 1/8
 - 02 — 1/4
 - 03 — 3/8
 - 04 — 1/2
- Port thread
 - Nil — Rc(PT)
 - F — G(PF)
 - N — NPT

Model	IN-OUT Port size	EXH. Port size	A	B	C	D	E	F
NVHS2500	1/8 • 1/4	1/8	1.57 (40)	2.20 (56)	1.42 (36)	1.10 (28)	.87 (22)	.98 (25)
NVHS3000	1/4 • 3/8	1/4	2.09 (53)	2.91 (74)	1.77 (45)	1.89 (48)	1.10 (28)	1.18 (30)
NVHS4000*	1/4 • 3/8 • 1/2	3/8	2.76 (70)	3.15 (80)	1.89 (48)	2.13 (54)	1.42 (36)	1.18 (30)

* Not applicable to NAC4000-N06

Bracket

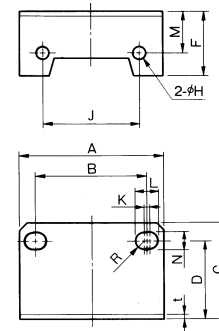
For NAF•NAL•NAFM•NAFD•NAR



B340



B240



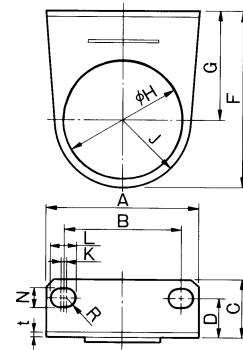
Model	A	B	C	D	F	H	J	K	L	M	N	R	t	Mounting screw (Head cap screw)	Applicable model
B240A	1.57 (40)	1.06 (27)	1.30 (33)	1.06 (27)	.71 (18)	.18 (4.5)	1.02 (26)	.12 (3)	.33 (8.4)	.55 (14)	.21 (5.4)	.11 (2.7)	.09 (2.3)	M4x8 (Phillips pan head screw)	NAF2000•NAL2000 NAFM2000•NAFD2000
B340A	2.09 (53)	1.57 (40)	1.54 (39)	1.26 (32)	.89 (22.5)	.18 (4.5)	1.38 (35)	.06 (1.5)	.31 (8)	.75 (19)	.26 (6.5)	.13 (3.25)	.09 (2.3)	M4x8 (Socket head cap screw)	NAF3000•NAL3000 NAFM3000•NAFD3000
B440A	2.76 (70)	2.13 (54)	1.85 (47)	1.50 (38)	1.24 (31.5)	.22 (5.5)	1.85 (47)	.08 (2)	.41 (10.5)	.79 (20)	.33 (8.5)	.17 (4.25)	.09 (2.3)	M5x10 (Socket head cap screw)	NAF4000•NAL4000 NAFM4000•NAFD4000
B540A	2.76 (70)	2.13 (54)	1.85 (47)	1.50 (38)	1.08 (27.5)	.22 (5.5)	1.85 (47)	.08 (2)	.41 (10.5)	.79 (20)	.33 (8.5)	.17 (4.25)	.09 (2.3)	M5x10 (Socket head cap screw)	NAF4000-N06•NAL4000-N06 NAFM4000-N06•NAFD4000-N06
B640A	3.54 (90)	2.60 (66)	2.52 (64)	2.05 (52)	1.69 (43)	.26 (6.5)	2.56 (65)	.08 (2)	.51 (13)	1.18 (30)	.43 (11)	.22 (5.5)	.13 (3.2)	M6x10 (Socket head cap screw)	NAF5000•NAR5000•NAL5000 NAF6000•NAR6000•NAL6000

Bracket

For NAR • NAW

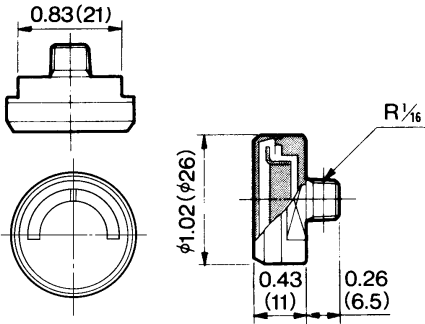


B220



Model	Inch (mm)													Applicable model
	A	B	C	D	F	G	H	J	K	L	N	R	t	
B120	1.57 (40)	1.10 (28)	.67 (17)	.43 (11)	1.47 (37.3)	.98 (25)	.81 (20.5)	.48 (12.3)	.08 (2)	.26 (6.5)	.18 (4.5)	.09 (2.25)	.08 (2)	NAR1000•NAW1000
B220	2.17 (55)	1.34 (34)	.98 (25)	.75 (19)	1.97 (50)	1.18 (30)	1.32 (33.5)	.79 (20)	.04 (1)	.61 (15.4)	.21 (5.4)	.11 (2.7)	.09 (2.3)	NAR2000•NAR2500•NAW2000 NAWM2000•NAWD2000
B320	2.09 (53)	1.57 (40)	.83 (21)	.53 (13.5)	2.60 (66)	1.61 (41)	1.67 (42.5)	.98 (25)	.06 (1.5)	.31 (8)	.26 (6.5)	.13 (4.25)	.09 (2.3)	NAR3000•NAW3000•NAWM3000 NAWD2000•NARP3000
B420	2.76 (70)	2.13 (54)	1.06 (27)	.71 (18)	3.15 (80)	1.97 (50)	2.07 (52.5)	1.18 (30)	.08 (2)	.41 (10.5)	.33 (8.5)	.17 (4.25)	.09 (2.3)	NAR4000•NAW4000 NAR4000-N06•NAW4000-N06 NAWM4000•NAWD4000

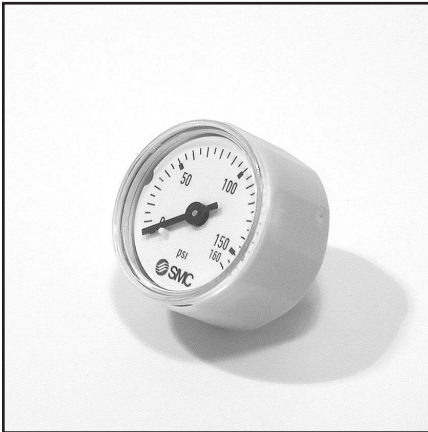
Pressure Gauge



G27-P10-R1

Model	Port Size	Suffix	Pressure Range (PSI)	Applicable Model
G27-P10-R1	Rc(PT)1/16	G	0~150	NAR1000•NAW1000

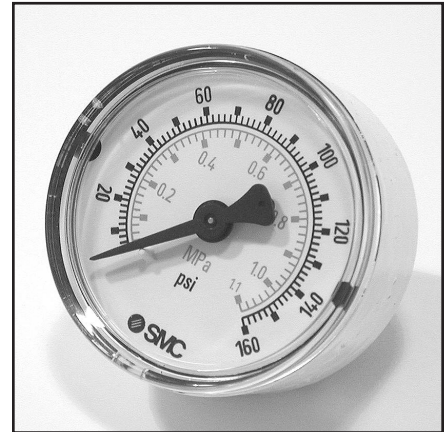
Standard Pressure Gauges



K27A-P1.0-N01M



K40-MP1.0-N01MS



K50-MP1.0-N02MS

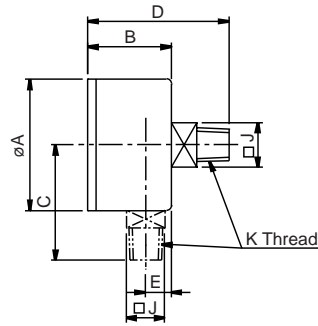
*Standard pressure gauges are stocked and readily available.

SIZE	27mm (1")		40mm (1 1/2")		50mm (2")	
THREAD LOCATION	CBM		CBM		CBM	
THREAD SIZE	1/8 NPT	1/8 PT	1/8 NPT	1/8 PT	1/4 NPT	1/4 PT
		WITH M5X0.8 FEMALE				
MATERIAL (CASE/SOCKET)	Urban White POLYAMID/POLYAMID		Urban White ABS/POLYAMID		Urban White ABS/POLYAMID	
UNITS	psi		Mpa & psi		Mpa & psi	
SCALE	PART NUMBER					
0~30 psi	K27A-P0.2-N01M	K27A-P0.2-01M	K40A-P0.2-N01M	K40A-P0.2-01M	K50A-P0.2-N02M	K50A-P0.2-02M
0~60 psi	K27A-P0.4-N01M	K27A-P0.4-01M	K40A-P0.4-N01M	K40A-P0.4-01M	K50A-P0.4-N02M	K50A-P0.4-02M
0~160 psi	K27A-P1.0-N01M	K27A-P1.0-01M	K40A-P1.0-N01M	K40A-P1.0-01M	K50A-P1.0-N02M	K50A-P1.0-02M

*Important delivery information:

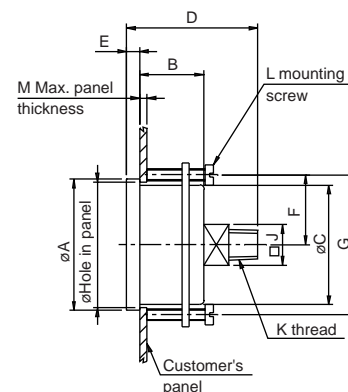
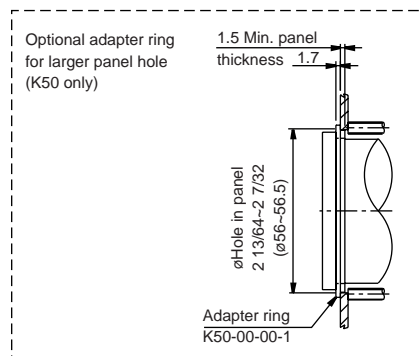
The part numbers listed on this page are standard stocked gauges. The delivery time on these standard gauges is approximately 1 week. Many other options can be made to order (see How to Order on proceeding page), but delivery time will be up to 14 weeks for the initial order. Subsequent orders for made to order gauges will be up to 10 weeks delivery depending on gauge options. If short delivery time is desired, SMC recommends choosing a part number from the list above instead of the proceeding page.

Pressure/Vacuum Gauge Dimensions



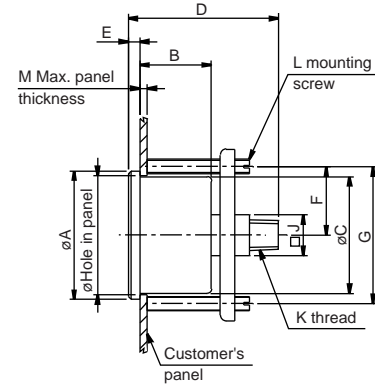
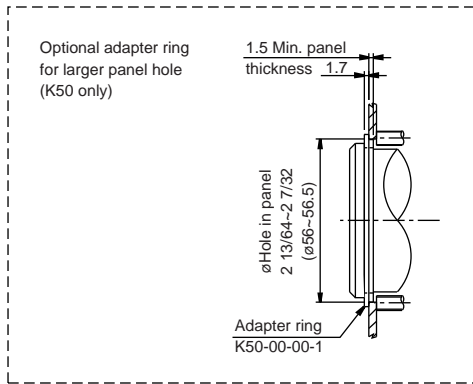
K(Z) ^(A)27 ^(A)40 ^(N)50 ^(P)50 ^(S)50 —*(N)₀₂⁰¹

Series	A	B	C 1/8 THD	C 1/4THD	D 1/8 THD	D 1/4 THD	E	F	G	H	J	K	L	M	N
1" K27A	1.10 (28)	.65 (16.5)	—	—	1.06 (27)	—	—	—	—	—	—	1/8 PT or NPT	—	—	—
1" K27 ^N _S	1.10 (28)	.67 (17)	—	—	1.06 (27)	—	—	—	—	—	—	1/8 PT or NPT	—	—	—
1 1/2" K(Z)40(A)	1.61 (41)	1.02 (26)	—	—	1.73 (44)	1.85 (47)	—	—	—	—	.55 (14)	1/8 or 1/4 PT or NPT	—	—	—
2" K(Z)50(A)	1.93 (49)	1.04 (26.5)	—	—	1.75 (44.5)	1.87 (47.5)	—	—	—	—	.55 (14)	1/8 or 1/4 PT or NPT	—	—	—
1 1/2" K(Z)40 ^N _S	1.57 (40)	1.04 (26.5)	—	—	1.63 (41.5)	1.75 (44.5)	—	—	—	—	.55 (14)	1/8 or 1/4 PT or NPT	—	—	—
2" K(Z)50 ^N _S	1.93 (49)	1.06 (27)	—	—	1.79 (45.5)	1.91 (48.5)	—	—	—	—	.55 (14)	1/8 or 1/4 PT or NPT	—	—	—
1 1/2" K(Z) ^A _B ^C _D 40(A)	1.57 (40)	.91 (23)	1.42 (36)	—	—	—	.31 (8)	—	—	—	.47 (12)	1/8 PT or NPT	—	—	—
2" K(Z) ^A _B ^C _D 50 (A)	1.93 (49)	1.06 (27)	1.65 (42)	1.77 (45)	—	—	.39 (10)	—	—	—	.55 (14)	1/8 or 1/4 PT or NPT	—	—	—
1 1/2" K(Z) ^A _B ^C _D 40 ^N _S	1.54 (39)	.91 (23)	1.42 (36)	—	—	—	.31 (8)	—	—	—	.47 (12)	1/8 PT or NPT	—	—	—
2" K(Z) ^A _B ^C _D 50 ^N _S	1.93 (49)	1.06 (27)	1.63 (41.5)	1.75 (44.5)	—	—	.39 (10)	—	—	—	.55 (14)	1/8 or 1/4 PT or NPT	—	—	—



K(Z) ⁴⁰50 ⁵⁰50 —*(N)₀₂⁰¹—C

Series	A	B	C	D 1/8 NPT	D 1/4 NPT	E	F	G	J	K	L	M	øHole	
													Min.	Max.
1 1/2" K(Z)40	1.77 (45)	.87 (22)	1.57 (40)	1.77 (45)	1.89 (48)	.18 (4.5)	.94 (24)	1.89 (48)	.55 (14)	1/8 or 1/4 PT or NPT	M4X0.7X20 Slotted Cheese Head	9/16 (14)	1 19/32 (40.5)	1 21/32 (42)
2" K(Z)50	2.13 (54)	.87 (22)	1.95 (49.5)	1.77 (45)	1.89 (48)	.18 (4.5)	1.12 (28.5)	2.24 (57)	.55 (14)	1/8 or 1/4 PT or NPT	M4X0.7X20 Slotted Cheese Head	37/64 (14.5)	1 31/32 (50)	2 1/32 (51.5)



K(Z) ⁴⁰/₅₀ ^N/_S —*—(N) ⁰¹/₀₂ —C

Series	A	B	C	D		E	F	G	J	K	L	M	∅Hole	
				1/8 NPT	1/4 NPT								Min.	Max.
1 1/2" K(Z)40	1.73 (44)	.96 (24.5)	1.57 (40)	2.03 (51.5)	2.15 (54.5)	.16 (4)	.93 (23.5)	1.85 (47)	.55 (14)	1/8 or 1/4 PT or NPT	M5X0.8X35L Slotted Set	1.08 (27.5)	1 19/32 (40.5)	1 5/8 (41)
2" K(Z)50	2.13 (54)	.96 (24.5)	1.93 (49)	2.07 (52.5)	2.19 (55.5)	2 (5)	1.11 (28.25)	2.22 (56.5)	.55 (14)	1/8 or 1/4 PT or NPT	M5X0.8X35 Slotted Set	1.0 (25.5)	1 15/16 (49.5)	1 31/32 (50)

Soft Start Up Valve
NAV2000, 3000, 4000, 5000

How to Order

N AV 20 00 F 02 1 G C

Applicable area

Nil	Japan, Asia, Australia
E	Europe
N	America

Soft start-up valve

Body size

20	1/4
30	3/8
40	1/2
50	3/4, 1

Thread type

Nil	Rc
F	G
N	NPT

Port size

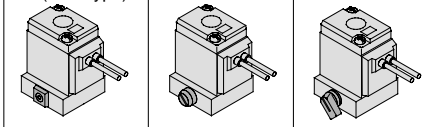
02	1/4 (AV2000 only)
03	3/8 (AV3000 only)
04	1/2 (AV4000 only)
06	3/4 (AV5000 only)
10	1 (AV5000 only)

Option

Nil	None
G	With pressure gauge

Manual override

Nil: Non-locking push type (flush type)	B: Locking type (tool required)	C: Locking type (lever type)
--	--	-------------------------------------



Indicator light/Surge voltage suppressor

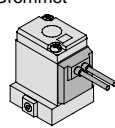
Nil	None
S	With surge voltage suppressor (grommet type only)
Z	With indicator light/surge voltage suppressor (not possible with grommet type)

Rated coil voltage

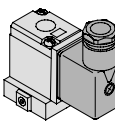
1	100VAC (50/60Hz)
2	200VAC (50/60Hz)
3	110 to 120VAC (50/60Hz)
4	220VAC (50/60Hz)
5	24VDC
6	12VDC
9	Other

Electrical entry

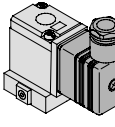
G: Grommet



D: Type D DIN terminal



Y: Type Y DIN terminal



How to Order Pilot Valve Assemblies

SF4 1 G 80

Rated coil voltage

1	100VAC (50/60Hz)
2	200VAC (50/60Hz)
3	110 to 120VAC (50/60Hz)
4	220VAC (50/60Hz)
5	24VDC
6	12VDC
9	Other

Electrical entry

G	Grommet
D	Type D DIN terminal
Y	Type Y DIN terminal

For soft start-up valve


Manual override

Nil	Non-locking push type (flush type)
B	Locking type (tool required)
C	Locking type (lever type)

Indicator light Surge voltage suppressor

Nil	None
S	With surge voltage suppressor (grommet type only)
Z	With indicator light/surge voltage suppressor (not possible with grommet type)

T V approved product



BAUART GEPR FT
TYPE APPROVED

(Conforms to standards necessary to satisfy EC directives.)

Series AV has received approval from T V Rheinland, an EC Notified Body (EC authorization number 0197), for conformity to DIN VDE0580: 1994 Standards.

Consult SMC for details when ordering TÜV approved products because of restrictions regarding product model, voltage specification, and electrical entry, etc.

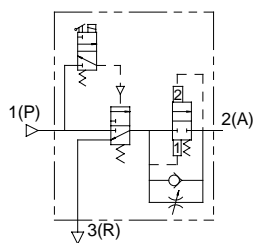


Type D DIN terminal



Type Y DIN terminal

Symbol



Accessories/Pressure gauge

Description	Pressure gauge
Part no.	G36-10-01
Pressure range	1MPa

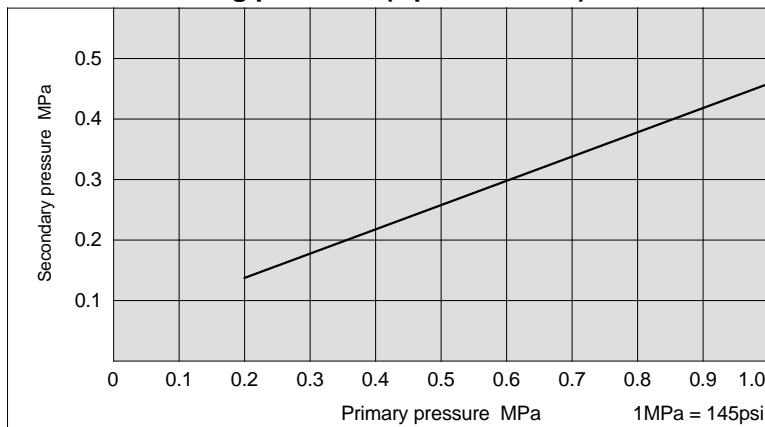
Specifications

Model		AV2000	AV3000	AV4000	AV5000		
Port size		1/4	3/8	1/2	3/4	1	
Proof pressure		1.5MPa (217psi)					
Operating pressure range		0.2 to 1MPa (29 to 145psi)					
Pressure gauge port size		1/8					
Ambient and fluid temperature		0 to 60°C (32° to 140°F) <small>Note 1)</small>					
Effective area mm ² (cv)	1(P)→2(A)	20 (1.1)	37 (2)	61 (3.4)	113 (6.3)	122 (6.8)	
	2(A)→3(R)	24 (1.3)	49 (2.7)	76 (4.2)	132 (7.3)	141 (7.8)	
Weight kg (lbs)		0.27 (.60)	0.48 (1.05)	0.74 (1.63)	1.60 (3.53)	1.54 (3.39)	
Electrical specifications	Rated coil voltage	100, 200, 110 to 120, 220VAC (50/60Hz), 12, 24VDC					
	Allowable voltage fluctuation	-15% to +10% of rated voltage					
	Coil insulation type	Equivalent to B type (130;C)					
	Apparent power (current consumption)	AC	5.6VA (50Hz), 5.0VA (60Hz)				
		Inrush Energized	3.4VA (2.1W)/50Hz, 2.3VA (1.5W)/60Hz				
	Current consumption DC	1.8W					
Electrical entry	Grommet, Type D DIN terminal, Type Y DIN terminal						
Optional specification	Indicator light/Surge voltage suppressor <small>Note 2)</small>						
Pilot valve manual override	Non-locking push type (flush type), Locking type (tool required), Locking type (lever type)						

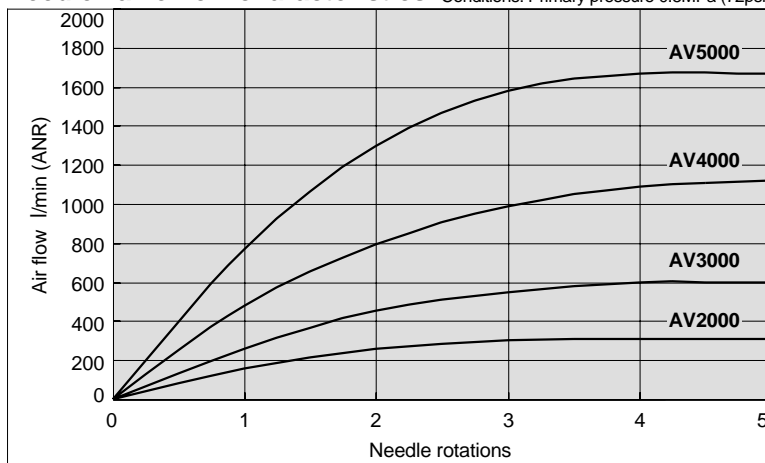
Note 1) Use dry air when operating at a low temperature.

Note 2) The grommet type can have a surge voltage suppressor (direct coupling type lead wire), but without indicator light.

Piston B switching pressure (Open→Closed)

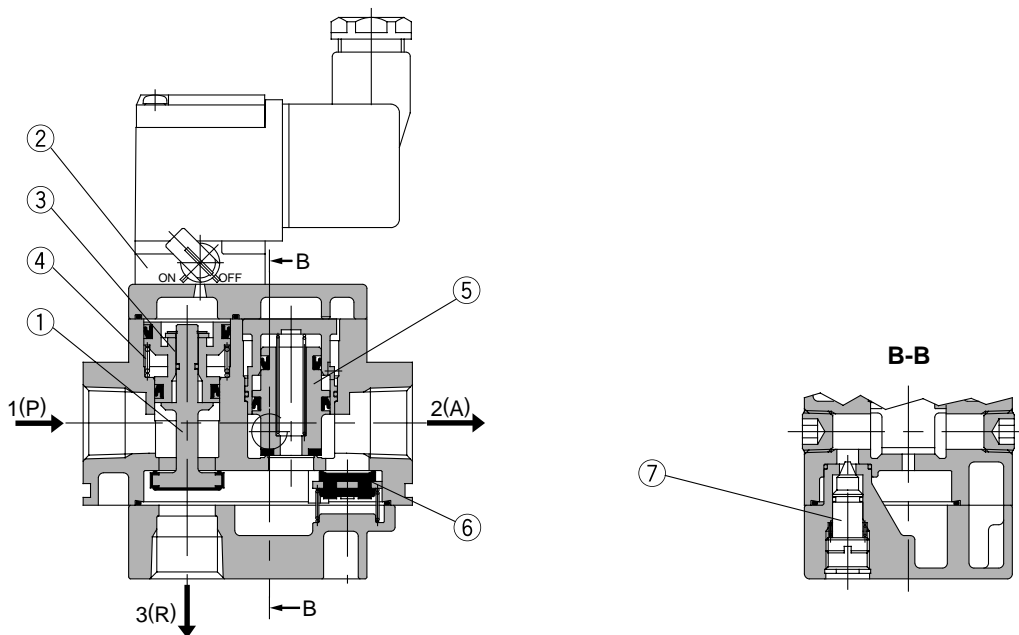


Needle valve flow characteristics Conditions: Primary pressure 0.5MPa (72psi)



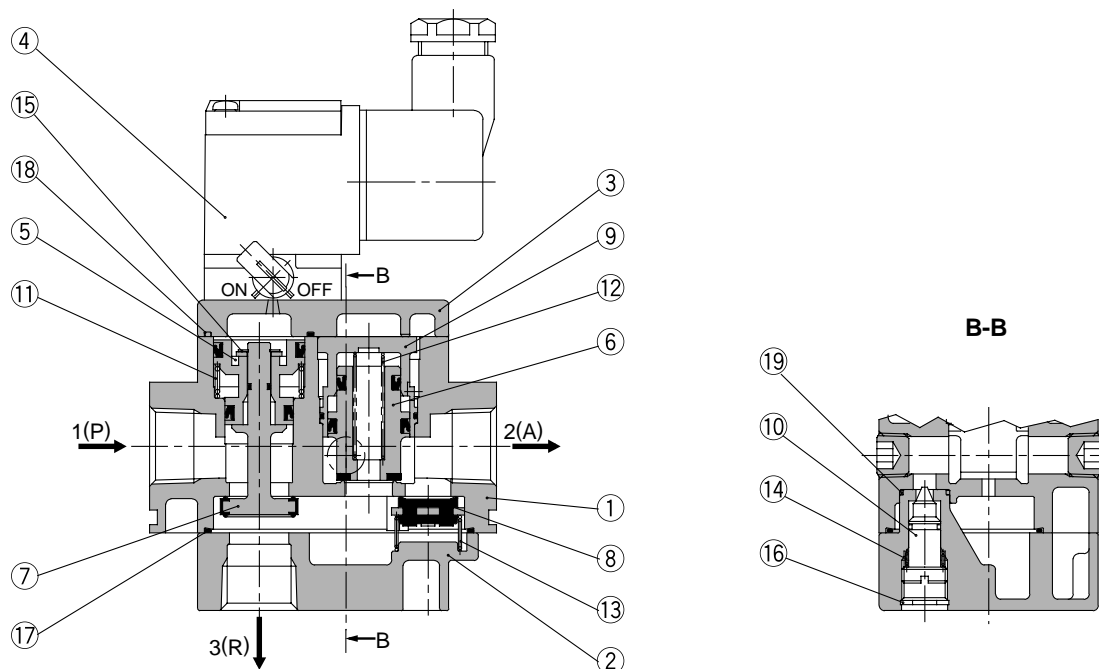
Soft Start Up Valve
NAV2000, 3000, 4000, 5000

Working Principle



Working condition	Pilot valve	Pressure conditions	Working description	Pressure time chart (meter-out control) example	Cylinder drive circuit (meter-out control) example	
Low speed supply	ON	$1/2 PP > PA$	When pilot valve ② is turned ON by energization or manual override, the pilot air pushes piston A ③ and main valve ① downward and opens main valve ① while R port closes simultaneously. The air from P port moves to needle valve ⑦, where its flow is adjusted, and flows to A port. The meter-in control of needle valve ⑦ slowly moves the cylinder from ①A to ②B.	<p>Initial operation return stroke</p>		
High speed supply		$1/2 PP \leq PA$	When $1/2 PP \leq PA$ after the cylinder reaches ②B, piston B ⑤ fully opens and PA increases rapidly as shown from ③C to ④D and becomes the same pressure as PP .			
Normal operation		$1/2 PP = \text{approx. } PA$	Since piston B ⑤ holds the fully open condition, during normal operation the cylinder's speed will be controlled by the usual meter-out control.			
Quick exhaust	OFF	—	When pilot valve ② is turned OFF, spring ④ pushes piston A ③ and main valve ① upward and opens R port while shutting off the air supply from P port. The pressure difference generated at this time opens check valve ⑥ and the residual pressure on the A port side is quickly exhausted from R port.			

Construction



Parts list

No.	Description	Material
1	Body	ADC
2	Cap	ADC
3	Cover	ADC

Replacement parts

No.	Description	Material	Part no.			
			AV2000	AV3000	AV4000	AV5000
4	Pilot valve assembly	—	SF4-□-80*			
5	Piston A assembly	POM, NBR	P424204A	P424304A	P424404A	P424504A
6	Piston B assembly	Brass, NBR (HNBR)	P424205A	P424305A	P424405A	P424505A
7	Main valve assembly	Brass, NBR (HNBR)	P424206A	P424306A	P424406A	P424506A
8	Check valve	Brass, NBR (HNBR)	P424207	P424307	P424407	P424507
9	Piston guide assembly	POM, NBR	P424208A	P424308A	P424408A	P424508A
10	Needle assembly	Brass, NBR	P424209A	P424309A	P424409A	P424509A
11	Valve spring	Steel wire	P424211	P424311	P424411	P424511
12	Piston spring	Stainless steel	P424212	P424312	P424412	P424512
13	Check spring	Stainless steel	P424213	P424313	P424413	P424513
14	Needle spring	Steel wire	P424214	P424314	P424414	—
15	C type snap ring for shaft	Tool steel	G-5	STW-5	STW-8	STW-10
16	C type snap ring for hole	Tool steel	0-9	0-10	RTW-12	RTW-15
17	Seal	NBR	P424210	P424310	P424410	P424510
18	Seal	NBR	P424218	P424315	P424415	P424514
19	O-ring	NBR	10 x 8 x 1	11 x 9 x 1	12.5 x 9.5 x 1.5	16.5 x 12.5 x 2

* Refer to page 1 for pilot valve assembly part number designations.

Soft Start Up Valve
NAV2000, 3000, 4000, 5000

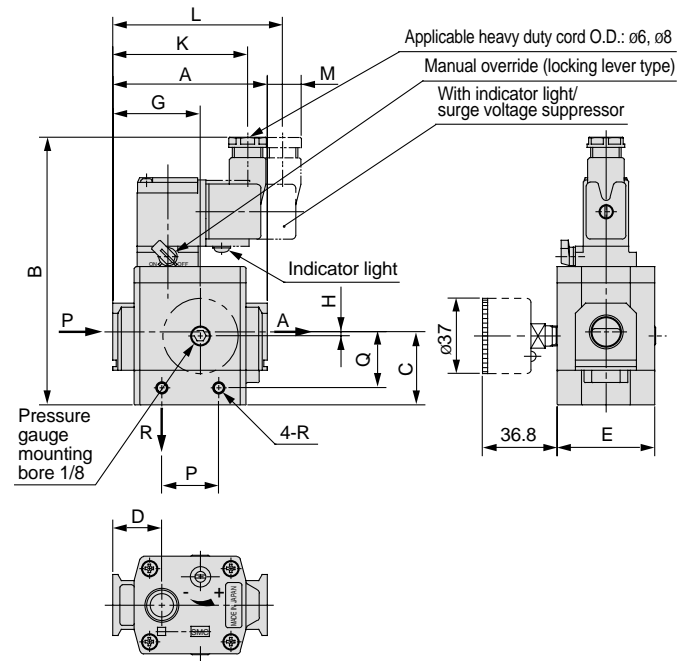
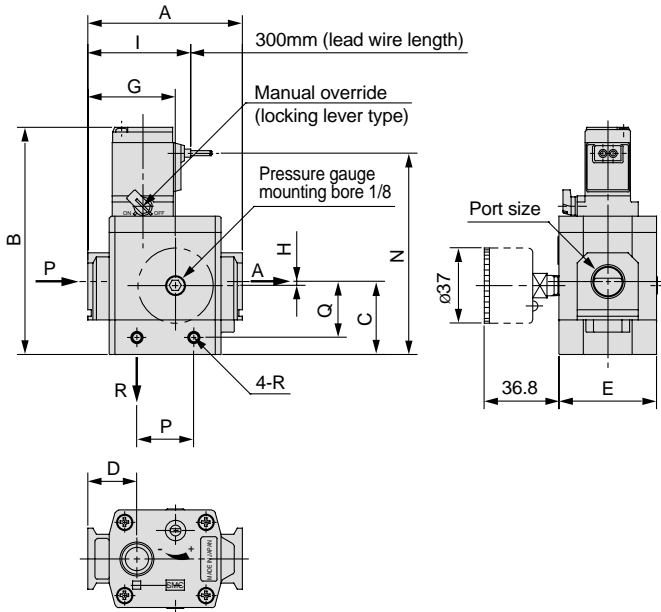
Dimensions (mm)

1in = 25.4mm

Grommet: AV□00-□-□G, GS

DIN terminal: AV□00-□-□D, DZ

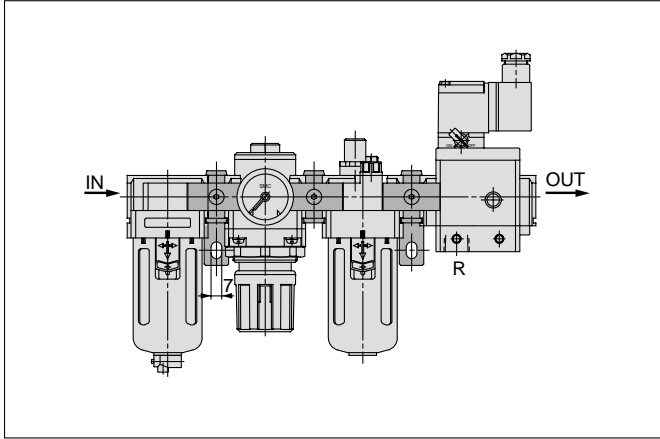
DIN terminal for European use: AV□00-□-□Y, YZ



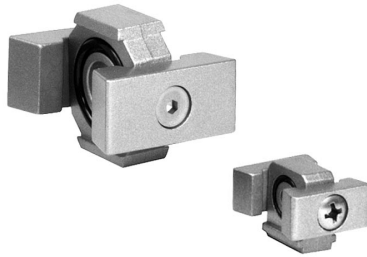
Model	Port size	A	B	C	D	E	G	H	I	K	L	M	N	P	Q	R
AV2000-□02-□G□	1/4	66	105	31	22	40	38	0	47.5	—	—	—	93	29	23.5	M4 x 0.7 Depth 4.5
AV2000-□02-□GS□										—	—	—				
AV2000-□02-□D□	1/4	66	125	31	22	40	38	0	—	65.5	—	6	—	29	23.5	M4 x 0.7 Depth 4.5
AV2000-□02-□DZ□										—	82.5	23				
AV2000-□02-□Y□	1/4	66	125	31	22	40	38	0	—	67.5	—	10.5	—	29	23.5	M4 x 0.7 Depth 4.5
AV2000-□02-□YZ□										—	84.5	27.5				
AV3000-□03-□G□	3/8	76	112	36	24	48	43	2	50.5	—	—	—	100	28	27.5	M5 x 0.8 Depth 5
AV3000-□03-□GS□										—	—	—				
AV3000-□03-□D□	3/8	76	132	36	24	48	43	2	—	68.5	—	—	—	28	27.5	M5 x 0.8 Depth 5
AV3000-□03-□DZ□										—	85.5	16				
AV3000-□03-□Y□	3/8	76	132	36	24	48	43	2	—	70.5	—	3.5	—	28	27.5	M5 x 0.8 Depth 5
AV3000-□03-□YZ□										—	87.5	20.5				
AV4000-□04-□G□	1/2	98	127	47	32	52	57	3	62.5	—	—	—	115	42	37	M6 x 1 Depth 6
AV4000-□04-□GS□										—	—	—				
AV4000-□04-□D□	1/2	98	147	47	32	52	57	3	—	80.5	—	—	—	42	37	M6 x 1 Depth 6
AV4000-□04-□DZ□										—	97.5	6				
AV4000-□04-□Y□	1/2	98	147	47	32	52	57	3	—	82.5	—	—	—	42	37	M6 x 1 Depth 6
AV4000-□04-□YZ□										—	99.5	10.5				
AV5000-□06-□G□	3/4, 1	128	155	59	39	74	77	0	74	—	—	—	143	50	46	M6 x 1 Depth 7.5
AV5000-□06-□GS□										—	—	—				
AV5000-□06-□D□	3/4, 1	128	175	59	39	74	77	0	—	90	—	—	—	50	46	M6 x 1 Depth 7.5
AV5000-□06-□DZ□										—	107	—				
AV5000-□06-□Y□	3/4, 1	128	175	59	39	74	77	0	—	94	—	—	—	50	46	M6 x 1 Depth 7.5
AV5000-□06-□YZ□										—	111	—				

Modular F.R.L. Combination Spacer

Select one of the spacers below when connecting to an F.R.L. combination unit (AC2000 to AC6000).
(Spacers must be ordered separately.)

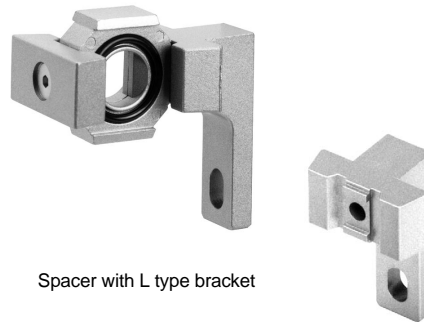


Spacer



Model	Applicable model
Y20	AV2000
Y30	AV3000
Y40	AV4000
Y60	AV5000

L type bracket Spacer with L type bracket

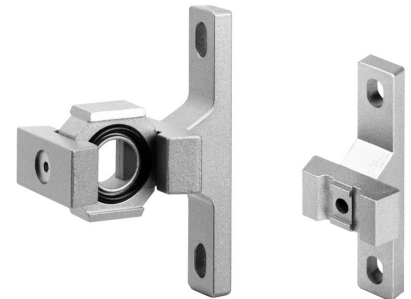


Spacer with L type bracket

L type bracket

L type bracket	Spacer with L type bracket	Applicable model
B210L	Y20L	AV2000
B310L	Y30L	AV3000
B410L	Y40L	AV4000
B610L	Y60L	AV5000

T type bracket Spacer with T type bracket



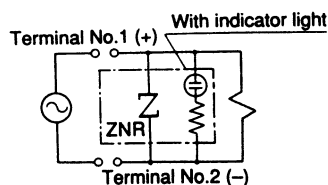
Spacer with T type bracket

T type bracket

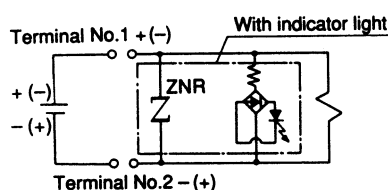
T type bracket	Spacer with T type bracket	Applicable model
B210T	Y20T	AV2000
B310T	Y30T	AV3000
B410T	Y40T	AV4000
B610T	Y60T	AV5000

Indicator Light & Surge Voltage Suppressor

AC and 100V DC



24V DC or less



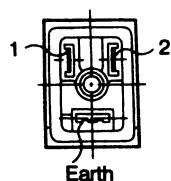
Note: No polarity (+/-) exists.

Electrical Entry

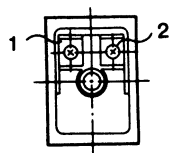
Connect the DIN connector and the terminal (with indicator light and surge voltage suppressor) having the following internal connection with the power supply.

Applicable crimp-style terminal: 1.25-3, 1.25-3S, 1.25Y-3N, 1.25Y-3S; The model with a DIN connector is not of a crimp-style terminal construction.

With DIN connector block



With Terminal block



Note: No polarity (+/-) exists.

Precautions

- For combination with the modular type FRL (NAC2000, 3000, 4000), select either T-type spacer (Y21, Y31, Y41), spacer (Y20, Y30, Y40), spacer with T-type bracket (Y20T, Y30T, Y40T), or spacer with L-type bracket (Y20L, Y30L, Y40L).
- This valve cannot prevent shooting when a closed-center solenoid valve, or equipment driving with a load factor of 50% or more, is used.
- When a regulator is to be mounted on the secondary side, use a regulator for releasing residual pressure (NAR2550, 3050, 4050). Standard regulators (NAR2000, 3000, 4000) cannot release residual pressure.
- Mount a lubricator, as necessary, on the primary side (P port side) of the valve. When the lubricator is mounted on the secondary side (A port side), oil flows backward and exits from R port.
- Check that the secondary-side pressure has risen to equal the primary-side pressure (P port side) before driving the solenoid valve mounted on the secondary-side (A port side) of the valve.
- The residual pressure release function of this valve is provided for emergency operation. Refrain from using the valve like an ordinary three-way valve.

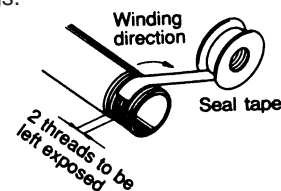
Needle Valve Adjustment Method

Use a screwdriver to adjust the needle valve. Clockwise rotation decreases air flow rate, and counterclockwise rotation increases air flow rate. (Refer to the flow rate characteristics of the needle valve on preceding pages.

Handling Instructions

Piping and Mounting

- Connect a pipe with a diameter equal to or larger than the nominal port size.
- Thoroughly flush the primary side (P port side) and secondary side (A port side) before piping to completely remove dust, scale, cutting chips produced by piping work, and seal tape.
- Be careful that thread chips or sealing material do not enter the piping when screwing in pipes and fittings.



- In case of trouble, design the piping so that the valve can be easily mounted/dismounted. Provide a space for a needle valve, operation of the manual lever on the pilot valve, and lead wire connection.

Environmental Conditions

- Prevent dust from naturally entering R port by mounting a silencer or mounting an elbow fitting with its opening facing down.
- Contact an SMC Representative when the valve is to be used in a place subject to corrosive gas, chemical solutions, chemical containing steam or sea water, as well as in a place where temperatures exceed 140°F (60°C) or an outdoor area.

Lubrication

The valve can be used without lubrication. When lubrication is desired, use a lubricator to spray lube oil. Use turbine oil, Grade 1 (ISO VG32).

Non-Modular Air Components

Specialty Filters & Drains106-132

NAF800 ~ 900 Filter	106-107
AM150 ~ 850 Mist Separator	108-112
AMD150 ~ 850 Micro Mist Separator	113-117
AME150 ~ 850 Super Mist Separator	118-122
AMF150 ~ 850 Odor Removal Filter	123-125
AMG150 ~ 850 Water Separator	126-130
NAD402 ~ 600 Auto Drain Valve	131
NADM200 ~ Electric Auto Drain Valve	132

Filter
NAF800, 900

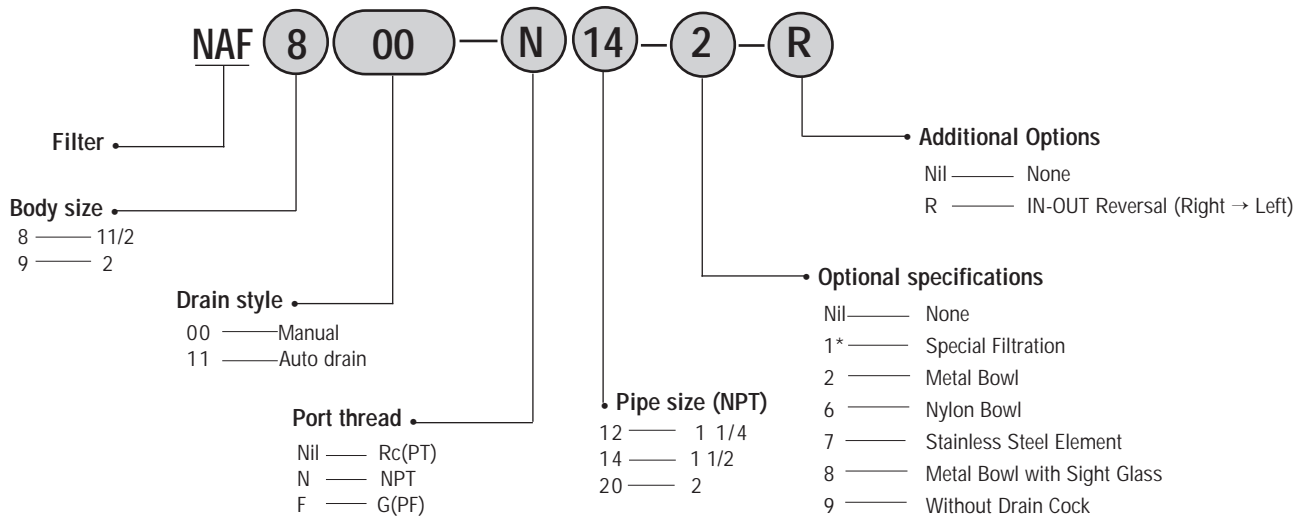


Specifications

Model		NAF800	NAF900
Pipe size (NPT)		1 1/4 - 1 1/2	2
Net bowl capacity oz. (cm ³)		6.1 (180)	6.1 (180)
Weight lbs (kgf)		6.94 (3.15)	12.02 (5.45)
Proof pressure psig (MPa)		220 (1.5)	
Max. operating pressure psig (MPa)		150 (1.0)	
Operating temperature range		23° ~ 140° F (-5° ~ 60° C)	
Filtration		40 standard, optional: 2, 10, 20, 70, 100 μm	
Bowl		Polycarbonate bowl	
Body		ADC	
Optional Accessories	Auto Drain (N.O.)	NAD34	NAD34

● Standard ▼ Optional —Not Available

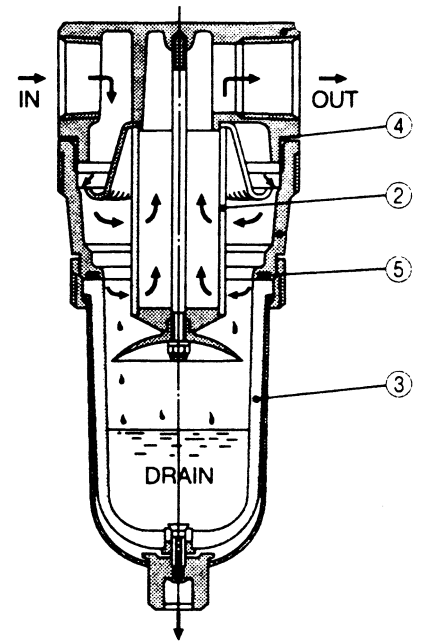
How To Order



* Please list Filtration after suffix number
(Ex. For 100μm — NAF800-N14-1-100)

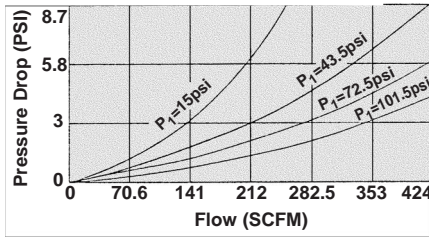
Construction/Parts List

Item No.	Name	Material	Model	
			NAF800	NAF900
②	Filter Element	Bronze	11345-40B	11352-40B
③	Bowl and guard	SPC	AF11-4	AF11-4
④	Housing O-ring	NBR	G-130	630332
⑤	Bowl O-ring		113136	113136
—	Repair Kit	—	KT-AF800-40B	KT-AF900-40B

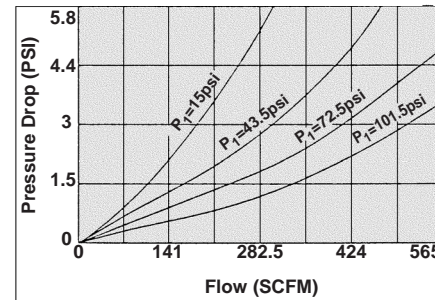


Flow Characteristics

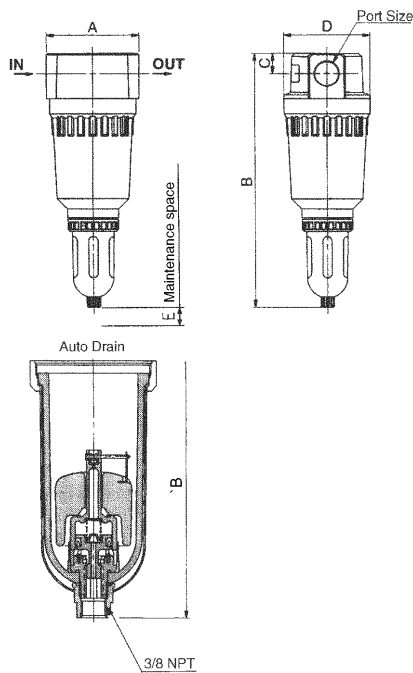
NAF800



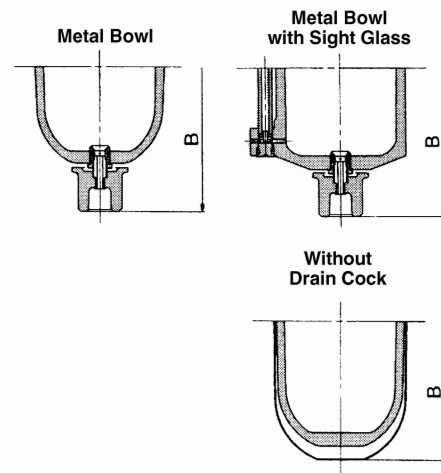
NAF900



Dimensions



Dimensions/with options



Model	A	B	B	C	D	E	Port size
NAF800	5.91	16.14	17.28 (439)	1.30	5.51 (140)	7.87 (200)	1 1/4 • 1 1/2
NAF900	7.87	19.29	20.43 (519)	1.81	6.69 (170)	10.24 (260)	2

Model	B		
	Metal Bowl	Metal Bowl w/sight glass	w/o Drain Cock
NAF811	16.10 (409)	17.34 (440.5)	15.49 (393.5)
NAF911	19.25 (489)	20.49 (520.5)	18.64 (473.5)

Mist Separator

AM150, 250, 350, 450, 550, 650, 850



Specifications

Fluid	Air
Max. operating pressure PSI (MPa)	150 (1.0)
Min. operating pressure PSI (MPa)	7 (0.05)
Proof pressure PSI (MPa)	220 (1.5)
Ambient and fluid temperature	40°~140°F (5~60°C)
Filtration degree	0.3μ(95% scavenging particle size)
Oil mist removal rate	*Max. 1.0mg/m ³ (≈ 0.08 ppm)
Element life	When ΔP reaches 15 psig (0.1 MPa) or 2 yrs

*Min. operating pressure for unit with auto drain is 22 psig. Compressor discharge concentration 30mgf/m³)

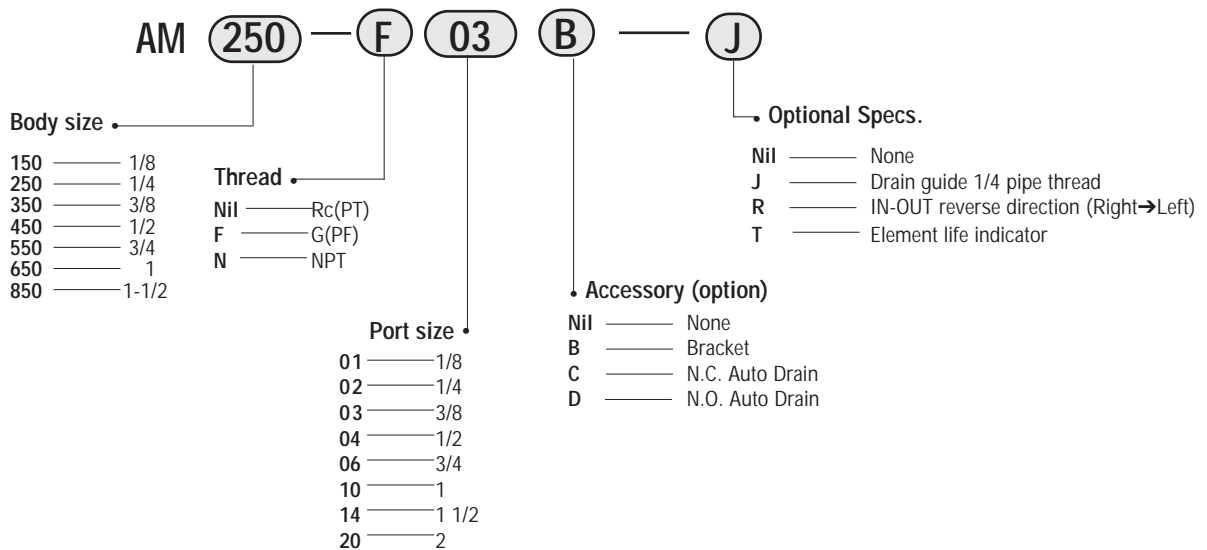
Model

Model	AM150	AM250	AM350	AM450	AM550	AM650	AM850
Flow capacity scfm (/min)	10.6 (300)	26.5 (750)	53 (1500)	77.7 (2200)	123.6 (3500)	212 (6000)	424 (12000)
Port Size	1/8• 1/4• 3/8	1/4• 3/8• 1/2	3/8• 1/2• 3/4	1/2• 3/4• 1	3/4• 1	1• 1 1/2	1 1/2 • 2
Weight lbs. (kgf)	.84 (0.38)	1.21 (0.55)	1.98 (0.9)	3.09 (1.4)	4.63 (2.1)	9.26 (4.2)	23.15 (10.5)

Accessories (Optional)

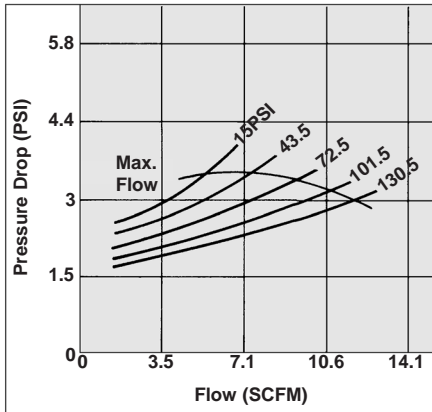
Model	AM150	AM250	AM350	AM450	AM550	AM650	AM850
Bracket assembly with cap screw and spring washer	BM51	BM52	BM53	BM54	BM55	BM56	BM57

How To Order

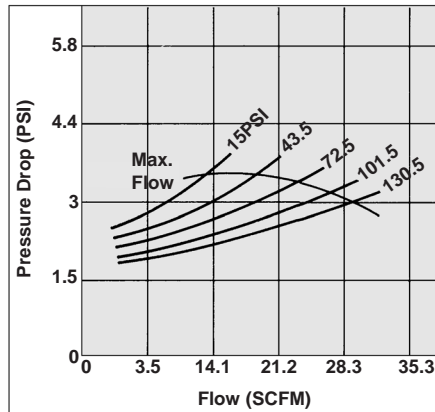


Flow characteristics

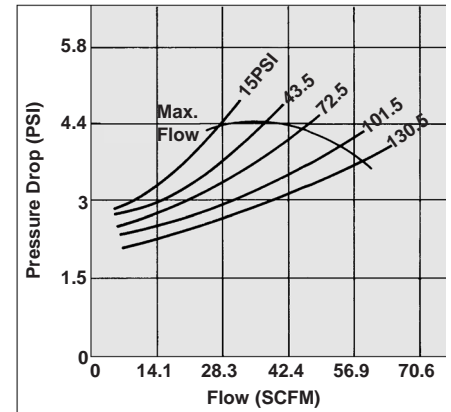
AM150 NPT 1/8



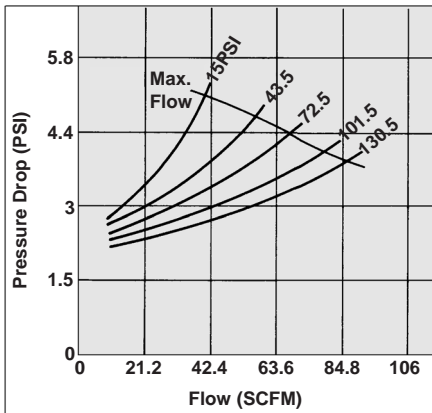
AM250 NPT 1/4



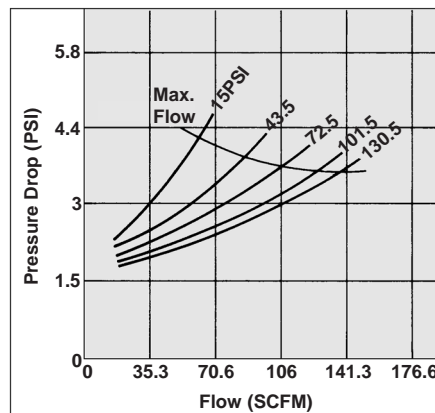
AM350 NPT 3/8



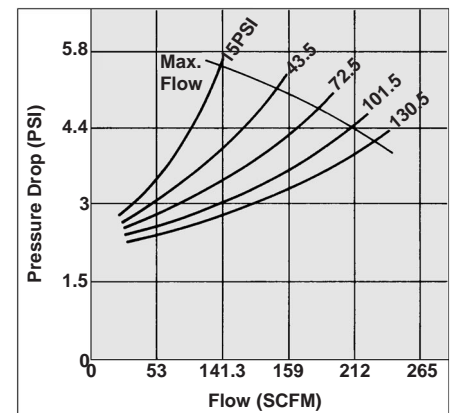
AM450 NPT 1/2



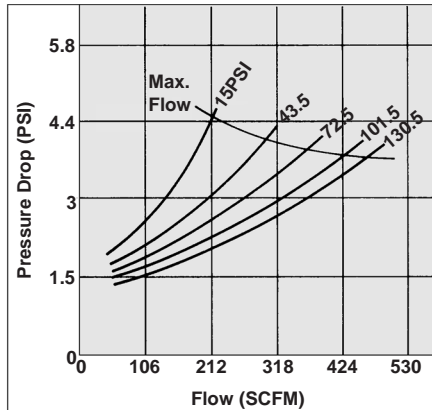
AM550 NPT 3/4



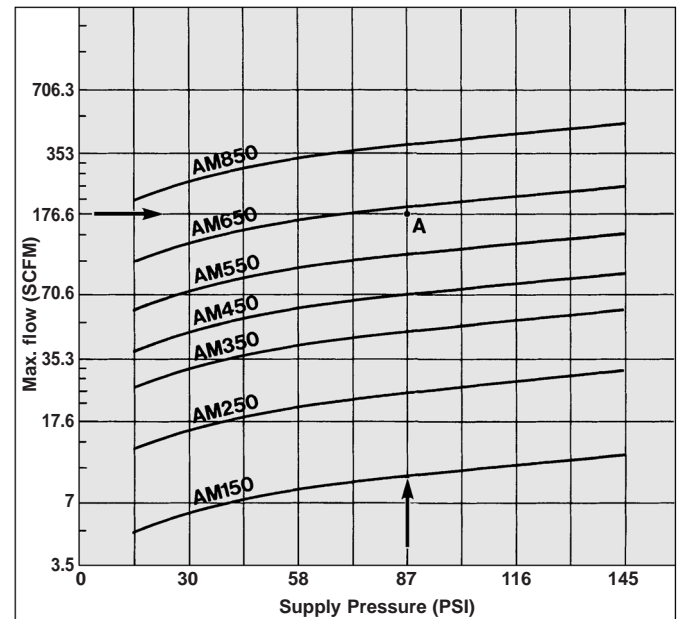
AM650 NPT 1



AM850 NPT 1 1/2



How To Select



Model Selection

Select the model in accordance with the following procedure taking the inlet pressure and maximum air flow into consideration.

(Example)

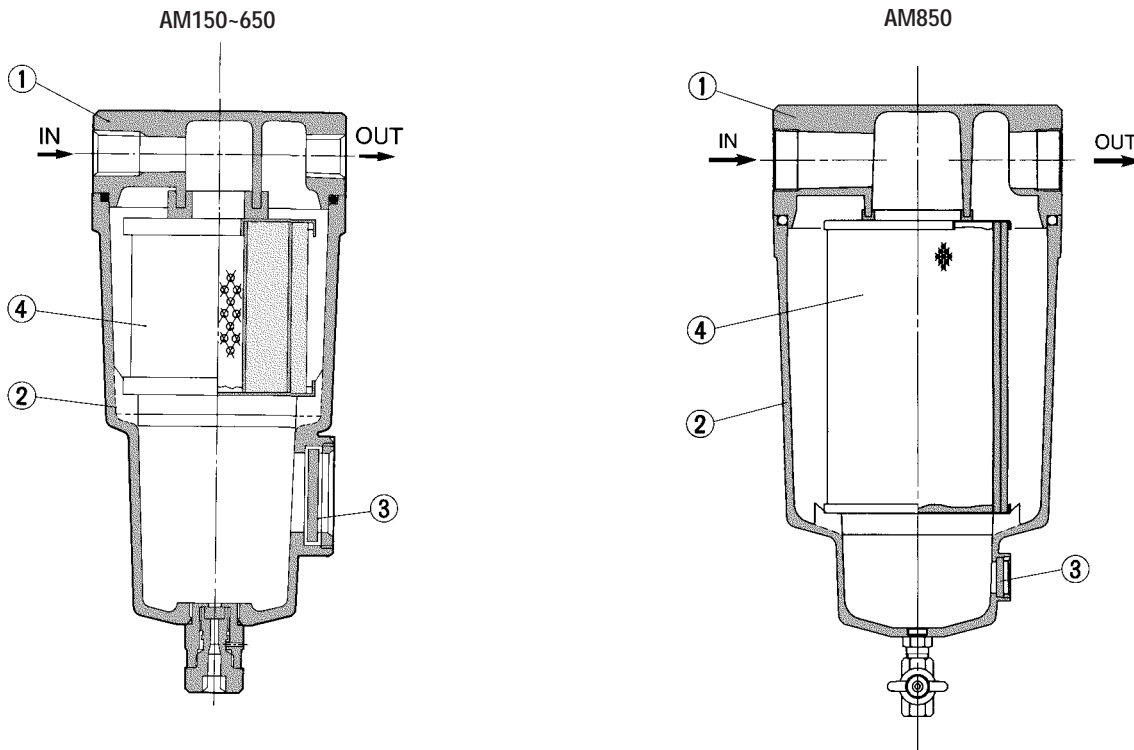
Inlet pressure: 87 PSI

Maximum air flow capacity: 176.6 SCFM

1. Select the point of contact A of inlet pressure and maximum air flow capacity in the graph.
2. Select the type whose maximum air flow capacity is over that point; AM650.

Construction/Parts List

AM150, 250, 350, 450, 550, 650, 850



Parts List

No.	Description	Material	Note
①	Body	*Aluminum die cast	Chromate treatment
②	Housing	*Aluminum die cast	Epoxy coating on inner surface
③	Sight Glass	Tempered	—

*Aluminum coating for AM850

Replacement Parts

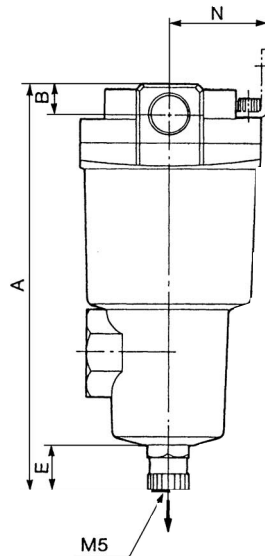
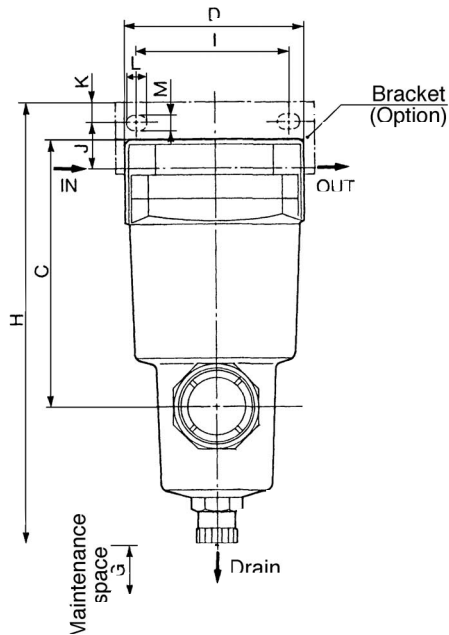
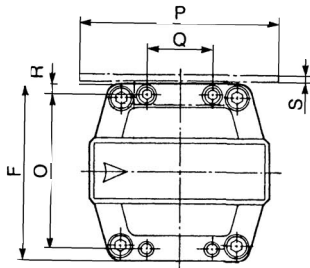
No.	Description	Material	AM150	AM250	AM350	AM450	AM550	AM650	AM850
④	Element Assembly*	Glass Fiber NBR	AM-EL150	AM-EL250	AM-EL350	AM-EL450	AM-EL550	AM-EL650	AM-EL850

*With gasket and O-ring

Precautions

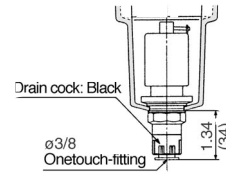
1. Replace element every two years or before reaching a 15 psig pressure drop.
2. Drain line should be $\phi 5/16$ in. (8mm) and within 16.5 ft. (5m) for N.O. auto drain.
3. For auto drain AM850, drain line should be $\phi 3/8$ in. and within 16.5 ft. (5m).
4. Use a N.C. auto drain for air compressors with air sources less than 3.7 kw (5HP).
5. For manual drain cocks, drain when liquid is visible in the sight glass.

Dimensions

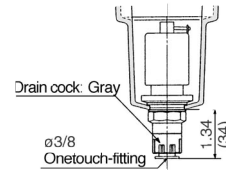


Accessories

D: With auto drain (N.O.)



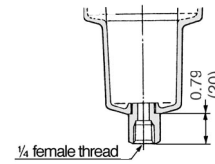
C: With auto drain (N.C.)



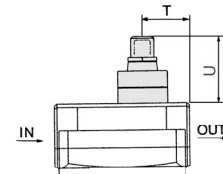
*Not available for AM650 (N.C.)

Optional Specifications

J: With drain guide



T: With element service indicator

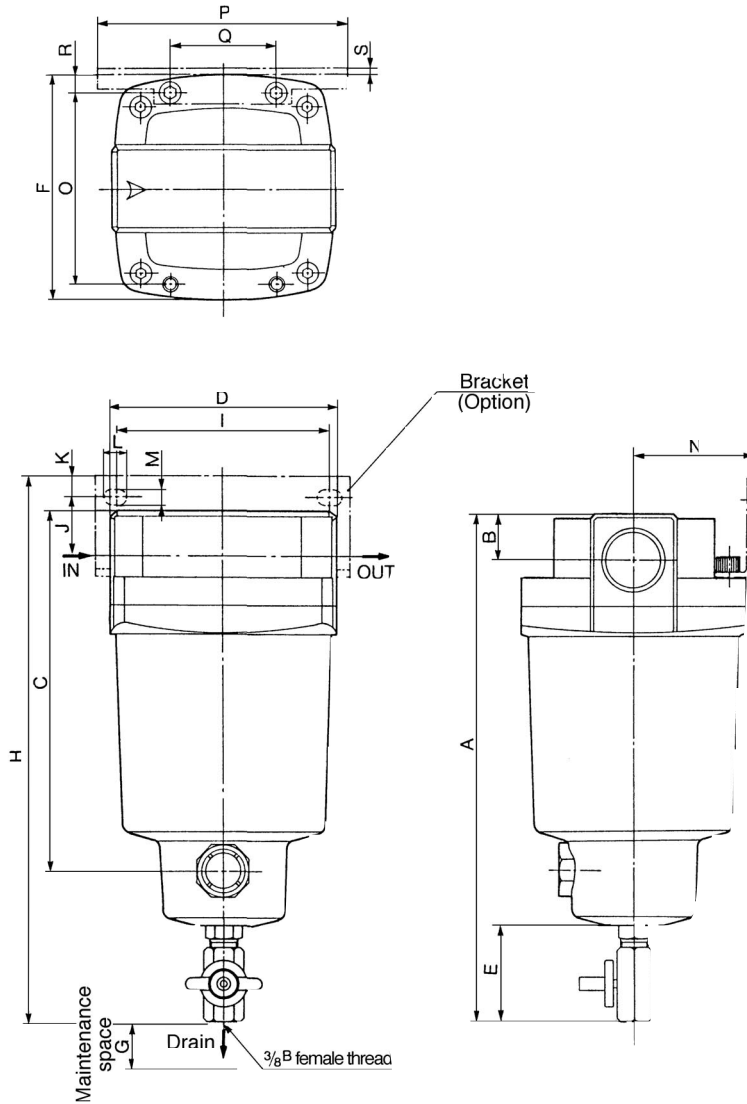


Model	Port Size	A	B	C	D	E	F	G	Dimensions with mounting bracket											Element service indicator		
									H	I	J	K	L	M	N	O	P	Q	R	S	T	U
AM150	1/8, 1/4, 3/8	6.26	.51	3.94	2.48	.79	2.48	.39	6.54	2.20	.59	.20	.35	.22	1.38	2.13	2.76	1.02	.18	.06	.94	1.46
		(159)	(13)	(100)	(63)	(20)	(63)	(10)	(166)	(56)	(15)	(5)	(9)	(5.5)	(35)	(54)	(70)	(26)	(4.5)	(1.6)	(24)	(37)
AM250	1/4, 3/8	6.77	.51	4.45	2.99	.79	2.99	.39	7.36	2.60	.79	.31	.47	.24	1.57	2.60	3.31	1.10	.20	.08	1.06	1.46
		(172)	(13)	(113)	(76)	(20)	(76)	(10)	(187)	(66)	(20)	(8)	(12)	(6)	(40)	(66)	(84)	(28)	(5)	(2.0)	(27)	(37)
	1/2	7.01	.63	4.69	2.99	.79	2.99	.39	7.36	2.60	.67	.31	.47	.24	1.57	2.60	3.31	1.10	.20	.08	1.06	1.46
		(178)	(16)	(119)	(76)	(20)	(76)	(10)	(187)	(66)	(17)	(8)	(12)	(6)	(40)	(66)	(84)	(28)	(5)	(2.0)	(27)	(37)
AM350	3/8, 1/2	8.03	.63	5.71	3.54	.79	3.54	.39	8.58	3.15	.87	.31	.55	.28	1.97	3.15	3.94	1.34	.20	.09	1.26	1.46
		(204)	(16)	(145)	(90)	(20)	(90)	(10)	(218)	(80)	(22)	(8)	(14)	(7)	(50)	(80)	(100)	(34)	(5)	(2.3)	(32)	(37)
	3/4	8.27	.75	5.94	3.54	.79	3.54	.39	8.58	3.15	.75	.31	.55	.28	1.97	3.15	3.94	1.34	.20	.09	1.26	1.46
		(210)	(19)	(151)	(90)	(20)	(90)	(10)	(218)	(80)	(19)	(8)	(14)	(7)	(50)	(80)	(100)	(34)	(5)	(2.3)	(32)	(37)
AM450	1/2, 3/4	8.86	.75	6.54	4.17	.79	4.17	.39	9.49	3.54	.98	.39	.55	.35	2.17	3.46	4.33	1.97	.35	.13	1.46	1.46
		(225)	(19)	(166)	(106)	(20)	(106)	(10)	(241)	(90)	(25)	(10)	(14)	(9)	(55)	(88)	(110)	(50)	(9)	(3.2)	(37)	(37)
	1	9.13	.87	6.81	4.17	.79	4.17	.39	9.49	3.54	.83	.39	.55	.35	2.17	3.46	4.33	1.97	.35	.13	1.46	1.46
		(232)	(22)	(173)	(106)	(20)	(106)	(10)	(241)	(90)	(21)	(10)	(14)	(9)	(55)	(88)	(110)	(50)	(9)	(3.2)	(37)	(37)
AM550	3/4, 1	10.20	.87	7.87	4.80	.79	4.80	.39	10.91	3.94	1.18	.39	.63	.35	2.56	4.02	5.12	2.36	.39	.18	1.54	1.46
		(259)	(22)	(200)	(122)	(20)	(122)	(10)	(277)	(100)	(30)	(10)	(16)	(9)	(65)	(102)	(130)	(60)	(10)	(4.5)	(39)	(37)
AM650	1, 1 1/2	12.24	1.26	9.96	6.30	.79	6.30	.39	13.15	5.91	1.57	.59	.79	.43	3.35	5.35	7.09	2.99	.47	.18	2.17	1.46
		(311)	(32)	(253)	(160)	(20)	(160)	(10)	(334)	(150)	(40)	(15)	(20)	(11)	(85)	(136)	(180)	(76)	(12)	(4.5)	(55)	(37)



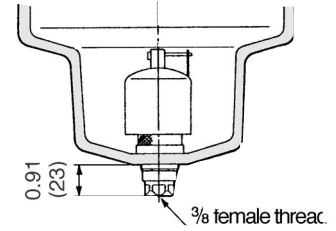
AM150.....SAM, #1 AM450.....SAM, #4
 AM250.....SAM, #2 AM550.....SAM, #5
 AM350.....SAM, #3 AM650.....SAM, #6

Dimensions



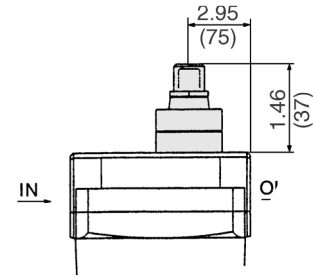
Accessories

D: With auto drain (N.O. type) for AM 850



Optional Specifications

T: With element service indicator



Mdel	Port size Nominal size	A	B	C	D	E	F	G	Dimensions with mounting bracket											
									H	I	J	K	L	M	N	O	P	Q	R	S
AM850	1 1/2, 2	18.13 (460.5)	1.65 (42)	13.70 (348)	8.66 (220)	2.26 (57.5)	8.66 (220)	.39 (10)	18.25 (463.5)	7.09 (180)	1.18 (30)	.59 (15)	.94 (24)	.51 (13)	4.72 (120)	7.24 (184)	8.66 (220)	4.33 (110)	.71 (18)	.24 (6.0)



AM850.....SAM, #7



Specifications

Fluid	Air
Max. supply pressure PSI (MPa)	220 psig (1.5)
Max. operating pressure PSI (MPa)	150 psig (1.0)
Min. operating pressure PSI (MPa)	7 psig (0.05)
Ambient and Fluid temp.	40° ~ 140° F (5~ 60° C)
Filtration degree	0.01µm (95% scavenging particle size)
Oil mist removal rate	*Max. 0.1mgf/Nm ³ (Before saturated w/oil: 0.01mgf/Nm ³ or less ≈ 0.08 ppm)
Element Life	When ΔP reaches 15 psig or 2 years

*Minimum operating pressure for unit with auto drain is 22 psig. *Compressor discharge concentration: 30mgf/m³

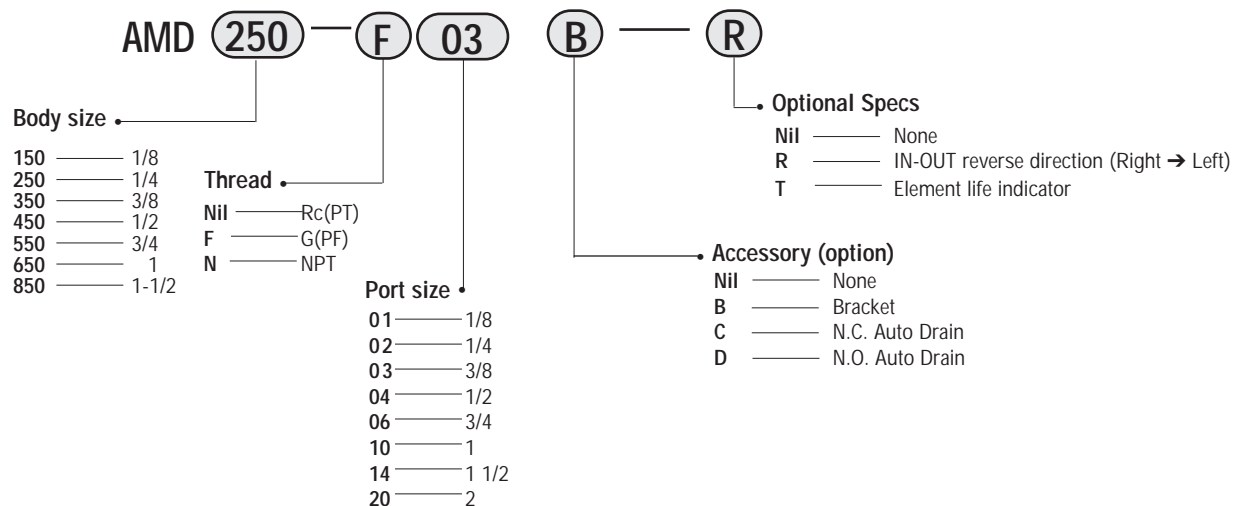
Model

Model	AMD150	AMD250	AMD350	AMD450	AMD550	AMD650	AMD850
Flow capacity Scfm (/min)	7.1 (200)	17.7 (500)	35.3 (1000)	70.6 (2000)	123.6 (3500)	212 (6000)	424 (12000)
Port Size	1/8•1/4•3/8	1/4•3/8•1/2	3/8•1/2•3/4	1/2•3/4•1	3/4•1	1•1 1/2	1 1/2 • 2
Weight lbs. (kgf)	0.84 (0.38)	1.21 (0.55)	1.98 (0.9)	3.09 (1.4)	4.63 (2.1)	9.26 (4.2)	23.13(10.5)

Accessories (Optional)

Model	AMD150	AMD250	AMD350	AMD450	AMD550	AMD650	AMD850
Bracket assembly with cap bolt, spring washer	BM51	BM52	BM53	BM54	BM55	BM56	BM57

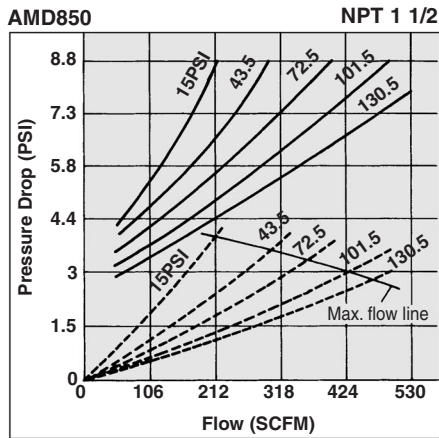
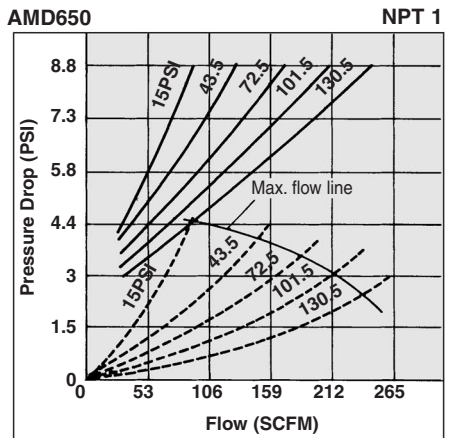
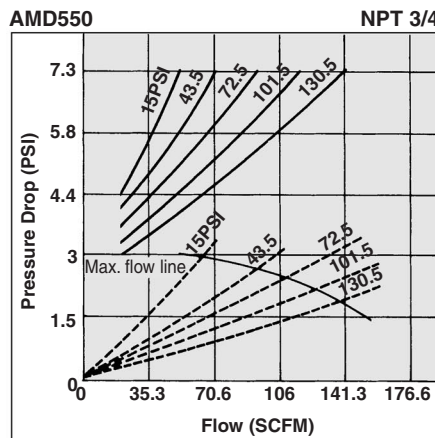
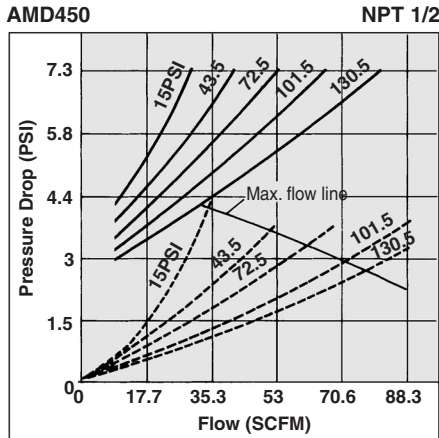
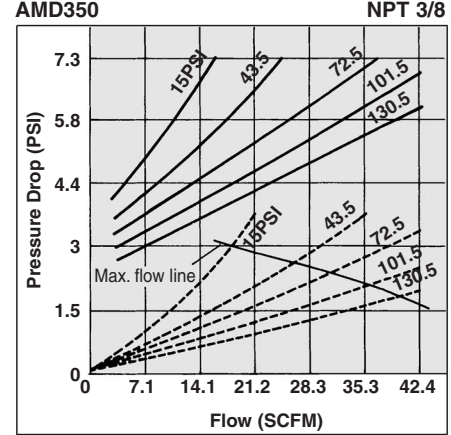
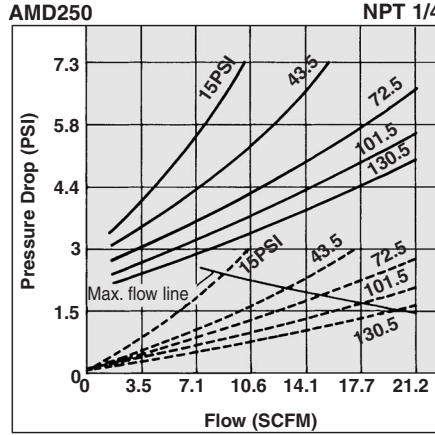
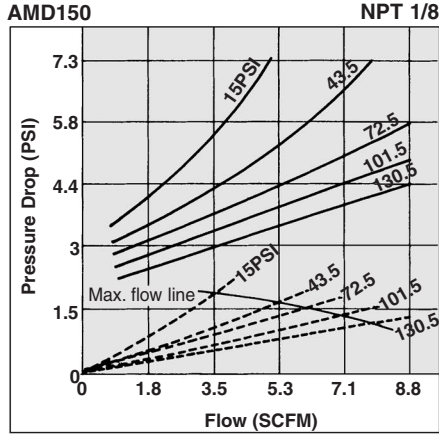
How To Order



Flow Characteristics

AMD150, 250, 350, 450, 550, 650, 850

———— Dry
 - - - - - Saturated



Model Selection

Select the model in accordance with the following procedure taking the inlet pressure and maximum air flow into consideration.

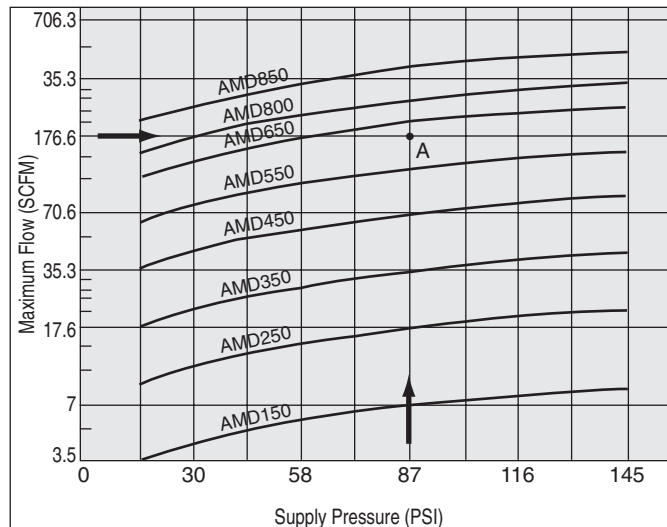
(Example)

Inlet pressure: 87 PSI

Maximum air flow capacity: 176.6 SCFM

1. Select the point of contact A of inlet pressure and maximum air flow capacity in the graph.
2. Select the type whose maximum air flow capacity is over that point; AMD650.

How To Select Flow

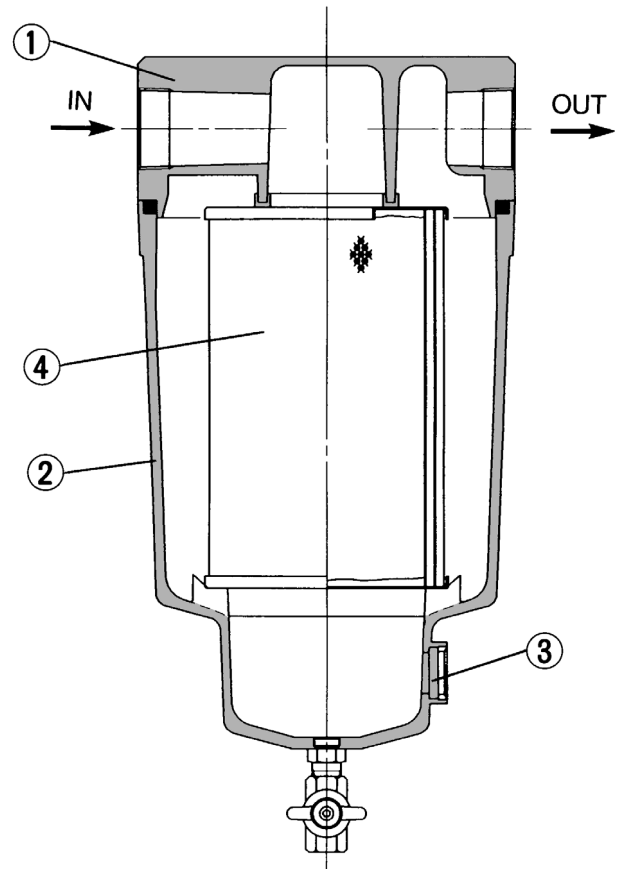
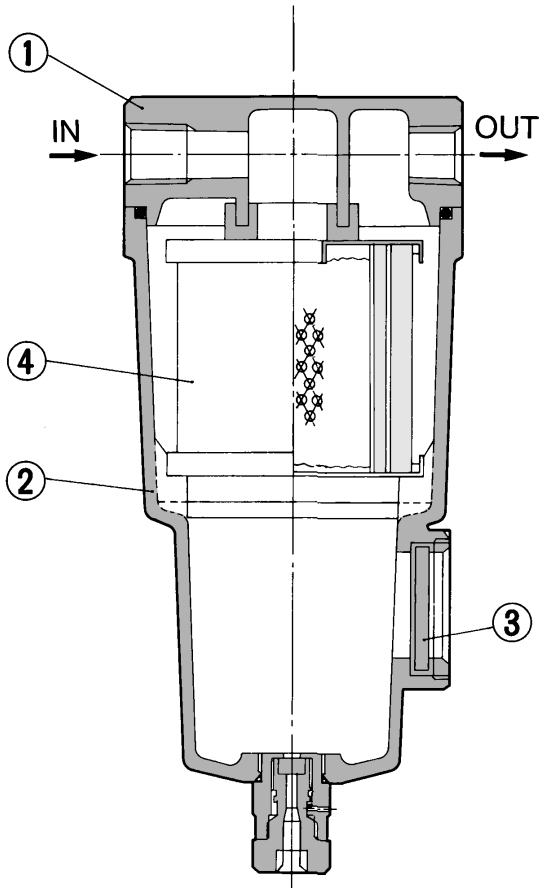


Precautions

1. Replace element every two years or before reaching a 15 psig pressure drop.
2. Drain line should be $\phi 5/16$ in. (8mm) and within 16.5 ft. (5m) for N.O. auto drain.
3. For auto drain AMD850, drain line should be $\phi 3/8$ in. and within 16.5 ft. (5m).
4. Use a N.C. auto drain for air compressors with air sources less than 3.7 kw (5HP).
5. For manual drain cocks, drain when liquid is visible in the sight glass.

AMD150-650

AMD850



Parts list

No.	Description	Material	Note
①	Body	*Aluminum die cast	Chromate treatment
②	Housing	*Aluminum die cast	Epoxy coating on inner surface
③	Sight Glass	Tempered glass	—

*Aluminum coating for NAMD850

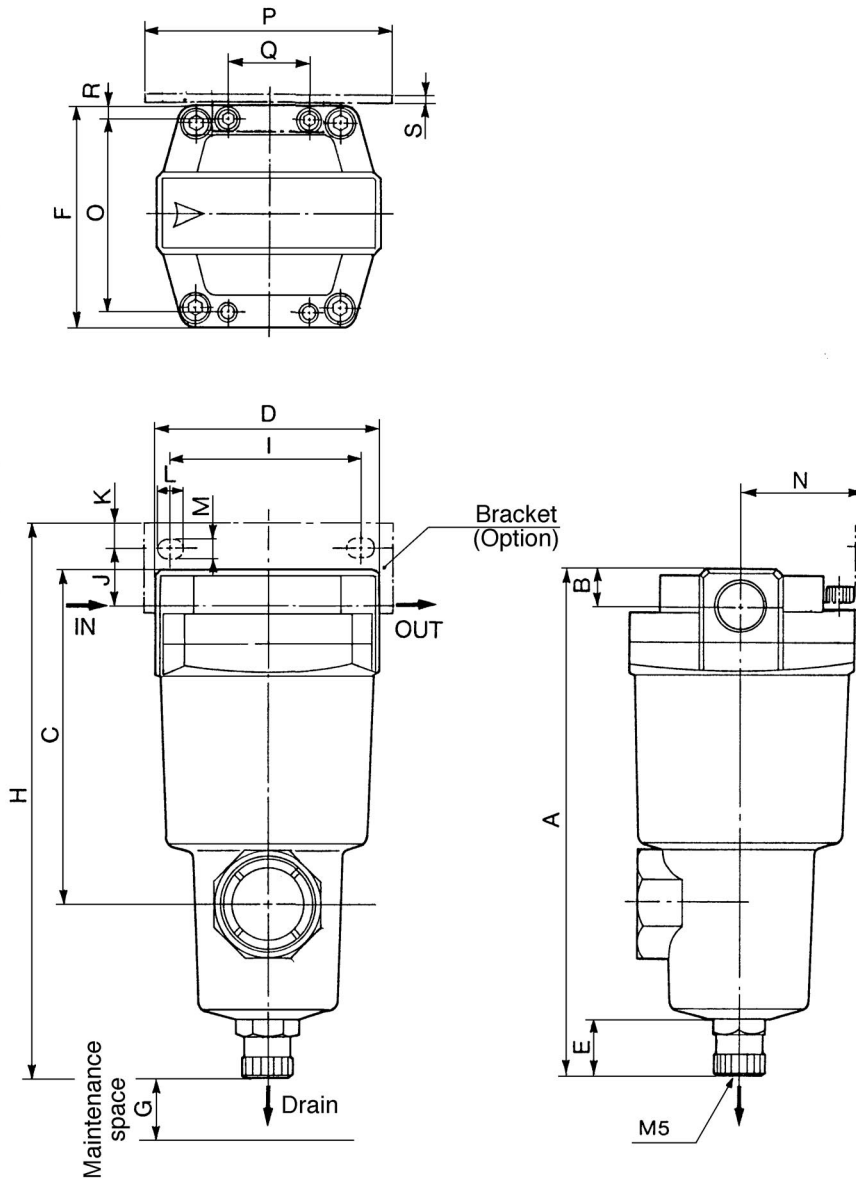
Replacement parts

No.	Description	Material	Model						
			AMD150	AMD250	AMD350	AMD450	AMD550	AMD650	AMD850
④	Element Ass'y*	Glass Fiber NBR	AMD-EL150	AMD-EL250	AMD-EL350	AMD-EL450	AMD-EL550	AMD-EL650	AMD-EL850

*With gasket and O-ring

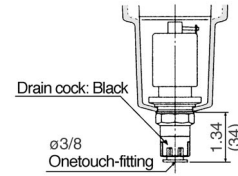
Dimensions
AMD150~650

Dimensions

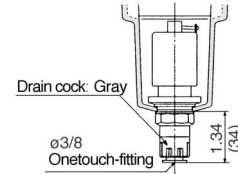


Accessories

D: With auto drain (N.O.)



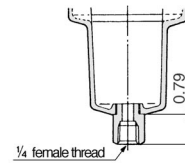
C: With auto drain (N.C.)



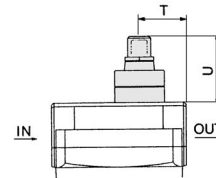
*Not available for AMD650 (N.C.)

Optional Specifications

J: With drain guide

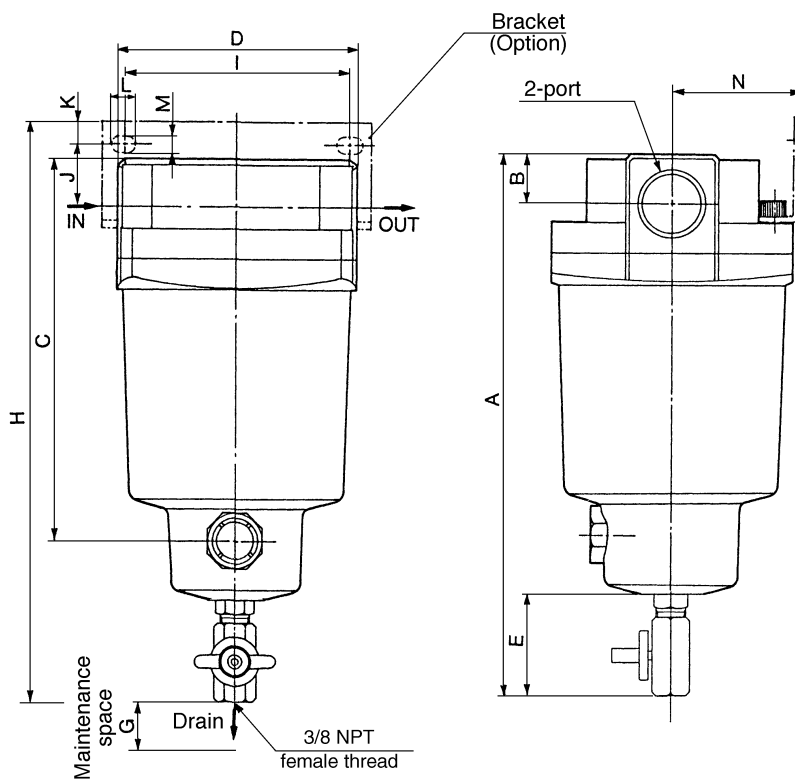
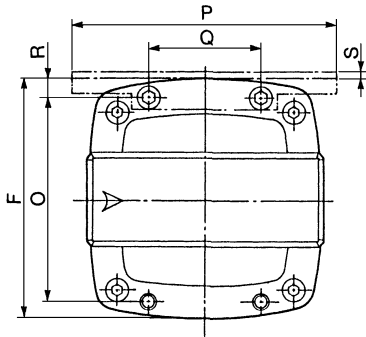


T: With element service indicator



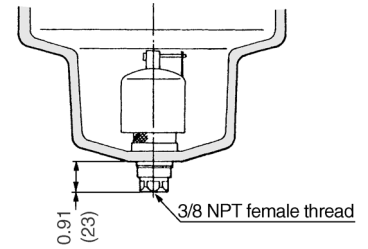
Model	Port Size	A	B	C	D	E	F	G	Mounting Dimensions											
									H	I	J	K	L	M	N	O	P	Q	R	S
AMD150	1/8 • 1/4 • 3/8	6.26 (159)	.51 (13)	3.94 (100)	2.48 (63)	.79 (20)	2.48 (63)	.39 (10)	6.54 (166)	2.20 (56)	.59 (15)	.20 (5)	.35 (9)	.22 (5.5)	1.38 (35)	2.13 (54)	2.76 (70)	1.02 (26)	.18 (4.5)	.06 (1.6)
AMD250	1/4 • 3/8	6.77 (172)	.51 (13)	4.45 (113)	2.99 (76)	.79 (20)	2.99 (76)	.39 (10)	7.36 (187)	2.60 (66)	.79 (20)	.31 (8)	.47 (12)	.24 (6)	1.57 (40)	2.60 (66)	3.31 (84)	1.10 (28)	.20 (5)	.08 (2.0)
AMD350	3/8 • 1/2	8.03 (204)	.63 (16)	5.71 (145)	3.54 (90)	.79 (20)	3.54 (90)	.39 (10)	8.58 (218)	3.15 (80)	.87 (22)	.31 (8)	.55 (14)	.28 (7)	1.97 (50)	3.15 (80)	3.94 (100)	1.34 (34)	.20 (5)	.09 (2.3)
AMD450	1/2 • 3/4	8.86 (225)	.75 (19)	6.54 (166)	4.17 (106)	.79 (20)	4.17 (106)	.39 (10)	9.49 (241)	3.54 (90)	.98 (25)	.39 (10)	.55 (14)	.35 (9)	2.17 (55)	3.46 (88)	4.33 (110)	1.97 (50)	.35 (9)	.126 (3.2)
AMD550	3/4 • 1	10.20 (259)	.87 (22)	7.87 (200)	4.80 (122)	.79 (20)	4.80 (122)	.39 (10)	10.91 (277)	3.94 (100)	1.18 (30)	.39 (10)	.63 (16)	.35 (9)	2.56 (65)	4.02 (102)	5.12 (130)	2.36 (60)	.39 (10)	.18 (4.5)
AMD650	1 • 1 1/2	12.24 (311)	1.26 (32)	9.96 (253)	6.30 (160)	.79 (20)	6.30 (160)	.39 (10)	13.15 (334)	5.91 (150)	1.57 (40)	.59 (15)	.79 (20)	.43 (11)	3.35 (85)	5.35 (136)	7.09 (180)	2.99 (76)	.47 (12)	.18 (4.5)

Dimensions

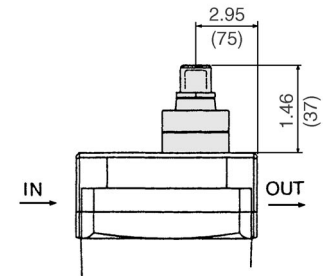


Accessories

D: With auto drain (N.O.) for AMD850



T: With element service indicator



Model	Port size	A	B	C	D	E	F	G	Dimensions with mounting bracket											
									H	I	J	K	L	M	N	O	P	Q	R	S
AMD850	1 1/2" • 2	18.13 (460.5)	1.65 (42)	13.7 (348)	8.66 (220)	2.26 (57.5)	8.66 (220)	.39 (10)	18.25 (463.5)	7.09 (180)	1.18 (30)	.59 (15)	.94 (24)	.51 (13)	4.72 (120)	7.24 (184)	8.66 (220)	4.33 (110)	.71 (18)	.24 (6)

Super Mist Separator

AME150, 250, 350, 450, 550, 650, 850



Specifications

Fluid	Air
Max. operating pressure PSI (MPa)	150 psig (1.0)
Min. operating pressure PSI (MPa)	7 psig (0.05)
Proof pressure PSI (MPa)	220 psig (1.5)
Ambient and Fluid temp.	40° ~ 140° F (5° ~60° C)
Filtration	0.01µm (95% efficient)
Efficiency outlet	Less than 3.5 particles 0.3 microns or larger per liter of air (100 particles or less per cubic foot)
Element Life	Element color indicator type (When element becomes saturated with oil the element surface changes from white to red)

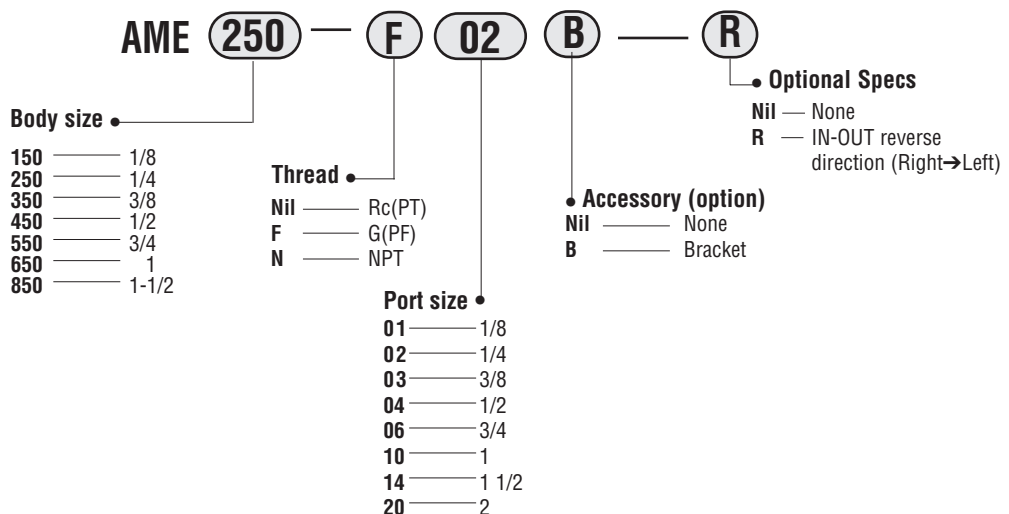
Model

Model	AME150	AME250	AME350	AME450	AME550	NME650	AME850
Flow capacity Scfm (Nℓ/min)	7.1 (200)	17.7 (500)	35.3 (1000)	70.6 (2000)	123.6 (3500)	212 (6000)	424 (12000)
Port Size	1/8•1/4•3/8	1/4•3/8•1/2	3/8•1/2•3/4	1/2•3/4•1	3/4•1	1•1 1/2	1 1/2 • 2
Weight lbs. (kgf)	.84 (0.38)	1.21 (0.55)	1.98 (0.9)	3.09 (1.4)	4.63 (2.1)	9.26 (4.2)	13.15 (10.5)

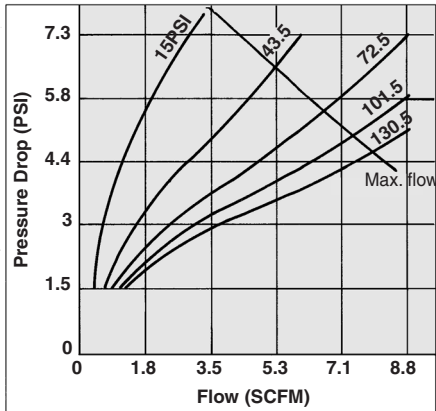
Accessories (Optional)

Model	AME150	AME250	AME350	AME450	AME550	AME650	AME850
Bracket assembly with cap screw and spring washer	BM51	BM52	BM53	BM54	BM55	BM56	BM57

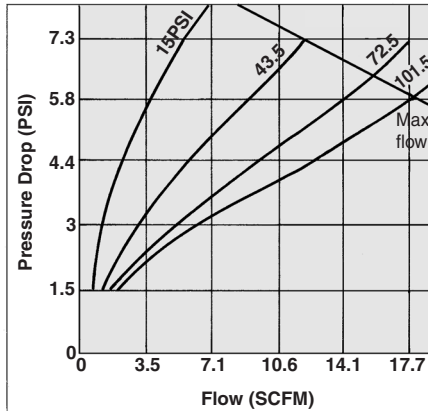
How To Order



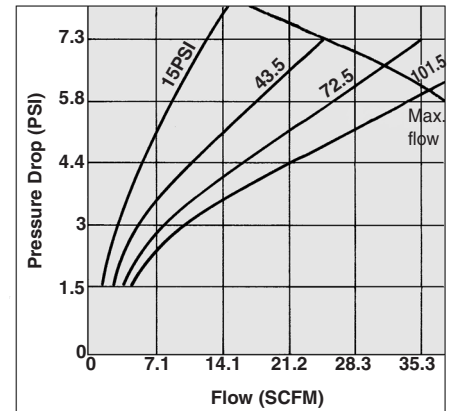
AME150



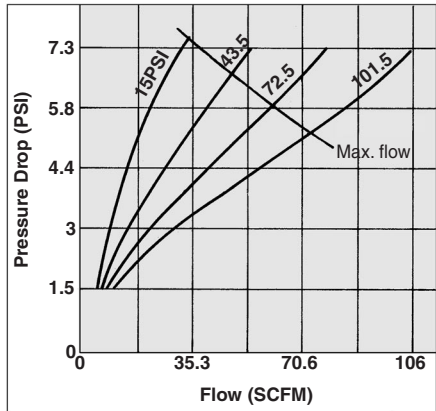
AME250



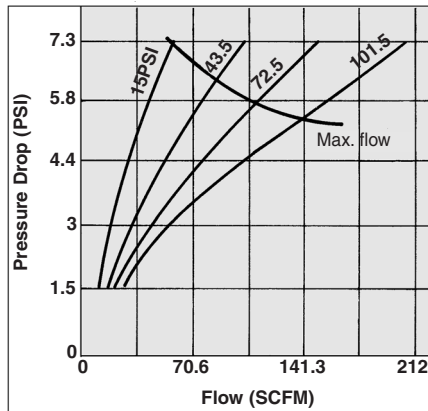
AME350



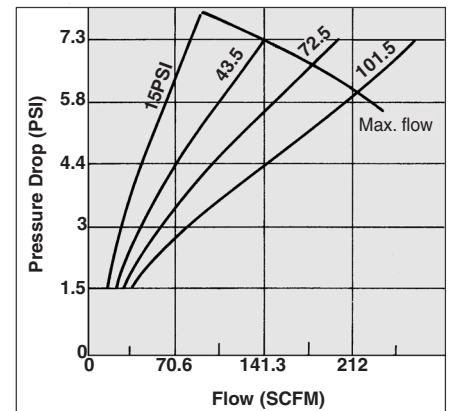
AME450



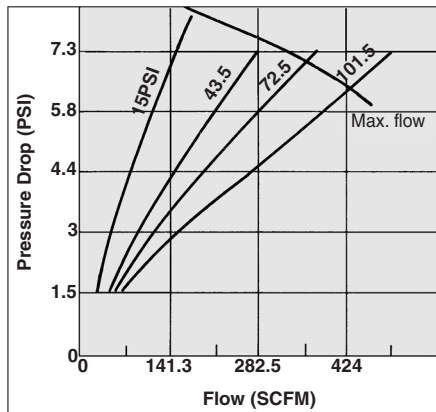
AME550



AME650



AME850



Model Selection

Select the model in accordance with the following procedure taking the inlet pressure and maximum air flow into consideration.

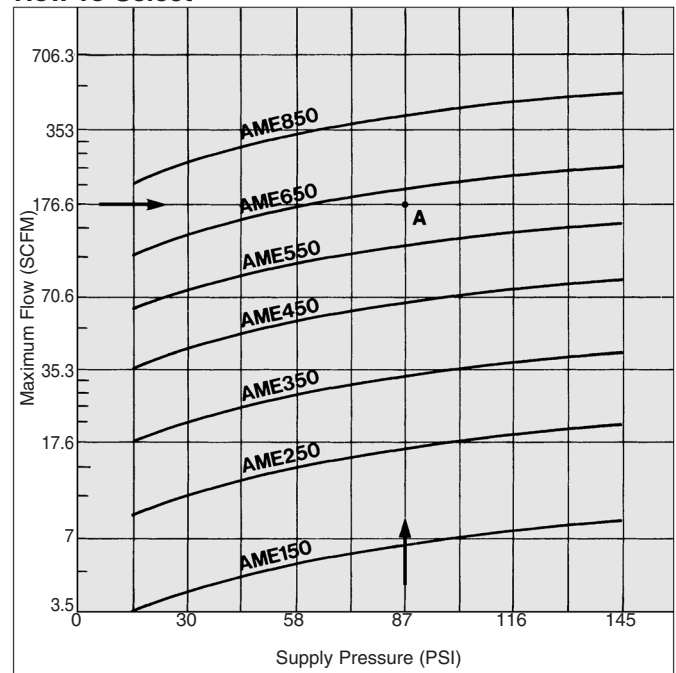
(Example)

Inlet pressure: 87 PSI

Maximum air flow capacity: 176.6 SCFM

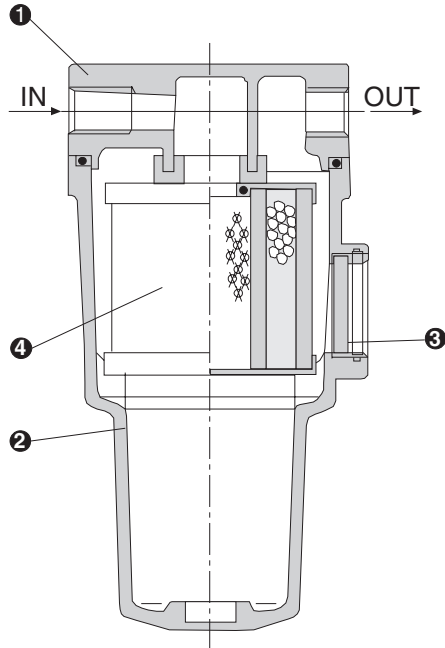
1. Select the point of contact A of inlet pressure and maximum air flow capacity in the graph.
2. Select the type whose maximum air flow capacity is over that point; AME650.

How To Select



Construction/Parts List

AME150, 250, 350, 450, 550, 650, 850



Parts List

No.	Description	Material	Note
①	Body	*Aluminum die cast	Chromate treatment
②	Housing	*Aluminum die cast	Epoxy coating on inner surface
③	Sight Glass	Tempered glass	—

*Aluminum coating for AME850

Replacement Parts

No.	Description	Material	Model						
			AME150	AME250	AME350	AME450	AME550	AME650	AME850
④	Element Ass'y*	Glass Fiber NBR	AME-EL150	AME-EL250	AME-EL350	AME-EL450	AME-EL550	AME-EL650	AME-EL850

*With gasket and O-ring

Precautions

Maintenance

- ① Use with dry air only.
- ② Replace element when pink spot appears. When pink spot appears, remaining life is 10%.

Installation

- ① Install in a cool place.
- ② Install with the sight glass facing front.
- ③ To capture excessive dirt and liquid particles, install AM series filter before the AME.

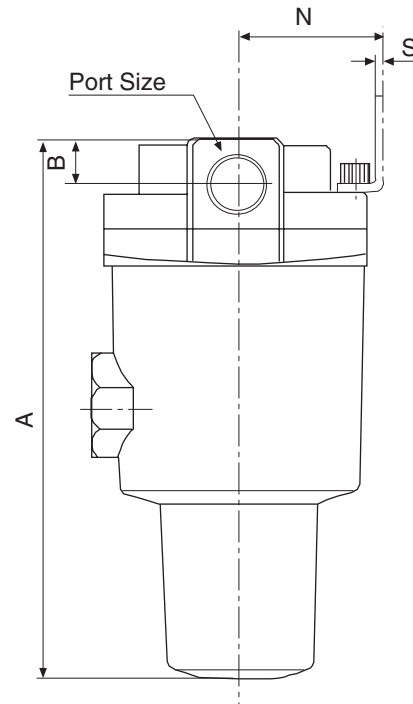
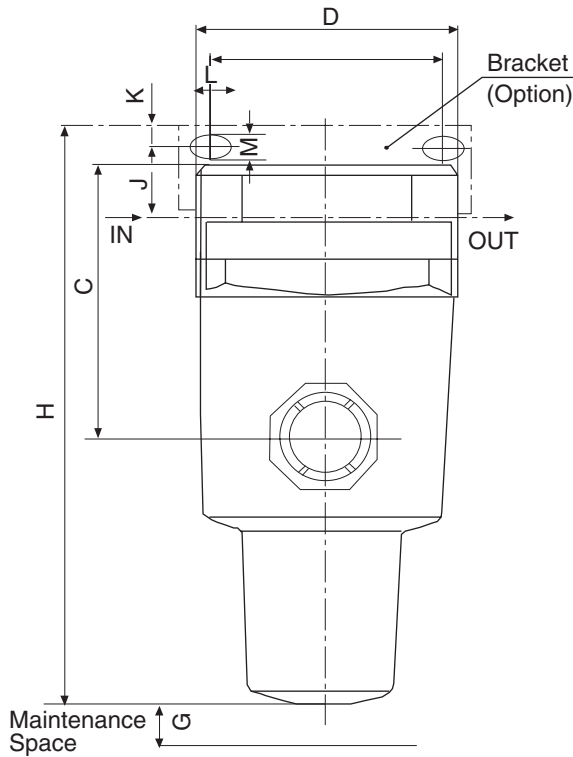
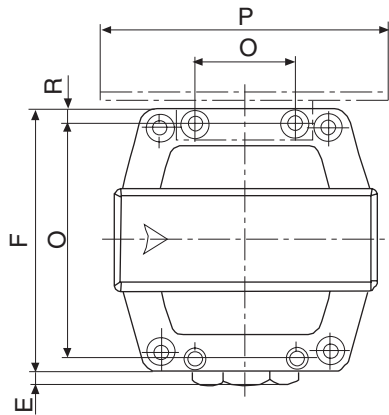
Element Life

The following table indicates life for the AM and AME combination. If the AMD filter is also installed, the life of the AME filter will increase 10 times.

Operation Time	Load Rate	Life
Continuous (8 hours per day)	100%	≈ 1 year
	75%	≈ 1.5 years
	50%	≈ 2 years

Note:
Replace element before differential pressure builds up to 0.2 MPa (30 psi).

AME150~350

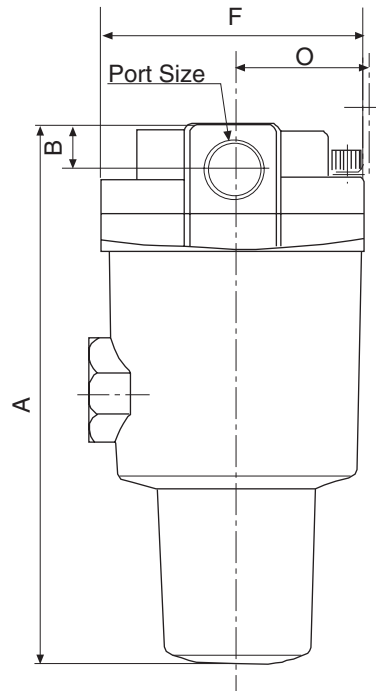
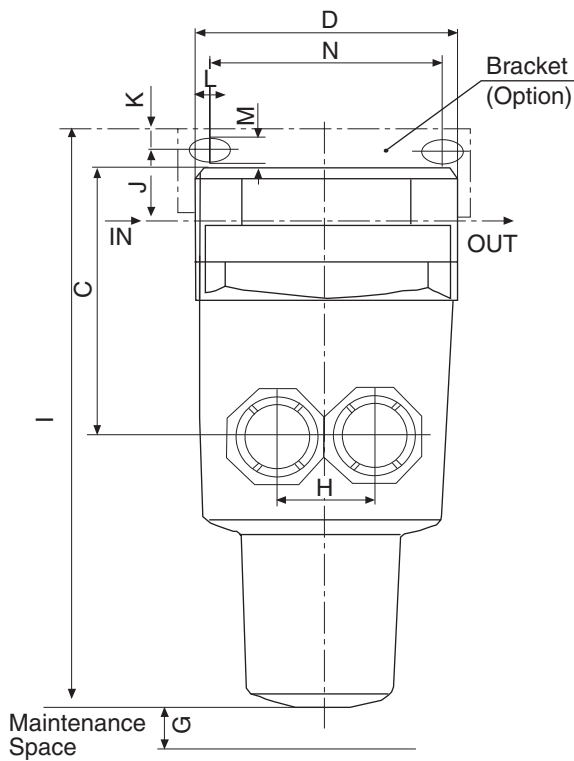
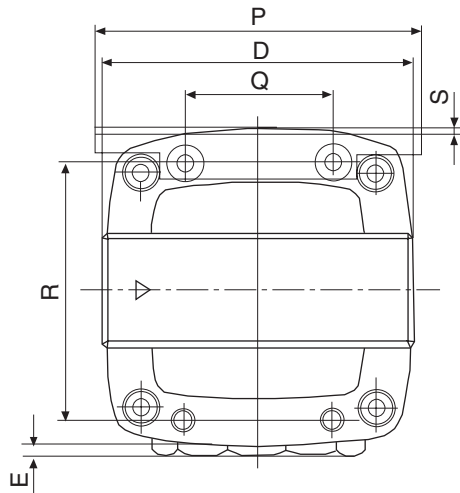


Model	Port Size	A	B	C	D	E	F	G	Dimensions with mounting bracket											
									H	I	J	K	L	M	N	O	P	Q	R	S
AME150	1/8 • 1/4 • 3/8	5.47 (139)	.51 (13)	2.17 (55)	2.48 (63)	.30 (7.5)	2.48 (63)	.39 (10)	5.75 (146)	2.20 (56)	.59 (15)	.20 (5)	.35 (9)	.22 (5.5)	1.38 (35)	2.13 (54)	2.76 (70)	1.02 (26)	.18 (4.5)	.06 (1.6)
	1/4 • 3/8	5.98 (152)	.51 (13)	2.60 (66)	2.99 (76)	.16 (4)	2.99 (76)	.39 (10)	6.57 (167)	2.60 (66)	.79 (20)	.31 (8)	.47 (12)	.24 (6)	1.57 (40)	2.60 (66)	3.31 (84)	1.10 (28)	.20 (5)	.08 (2.0)
AME250	1/2	6.22 (158)	.63 (16)	2.83 (72)	2.99 (76)	.16 (4)	2.99 (76)	.39 (10)	6.57 (167)	2.60 (66)	.67 (17)	.31 (8)	.47 (12)	.24 (6)	1.57 (40)	2.60 (66)	3.31 (84)	1.10 (28)	.20 (5)	.08 (2.0)
	3/8 • 1/2	7.24 (184)	.63 (16)	3.62 (92)	3.54 (90)	.20 (5)	3.54 (90)	.39 (10)	7.80 (198)	3.15 (80)	.87 (22)	.31 (8)	.55 (14)	.28 (7)	1.97 (50)	3.15 (80)	3.94 (100)	1.34 (34)	.20 (5)	.09 (2.3)
AME350	3/4	7.48 (190)	.75 (19)	3.86 (98)	3.54 (90)	.20 (5)	3.54 (90)	.39 (10)	7.80 (198)	3.15 (80)	.75 (19)	.31 (8)	.55 (14)	.28 (7)	1.97 (50)	3.15 (80)	3.94 (100)	1.34 (34)	.20 (5)	.09 (2.3)

AME150.....SAME, #1
 AME250.....SAME, #2
 AME350.....SAME, #3

Dimensions
AME450~850

AME450~850



Model	Port Size	A	B	C	D	E	F	G	Dimensions with mounting bracket											
									H	I	J	K	L	M	N	O	P	Q	R	S
AME450	1/2 • 3/4	8.07 (205)	.75 (19)	3.94 (100)	4.17 (106)	.12 (3)	4.17 (106)	.39 (10)	1.42 (36)	8.70 (221)	.98 (25)	.39 (10)	.55 (14)	.35 (9)	3.54 (90)	2.17 (55)	4.33 (110)	1.97 (50)	3.46 (88)	.13 (3.2)
	1	8.35 (212)	.87 (22)	4.21 (107)	4.17 (106)	.12 (3)	4.17 (106)	.39 (10)	1.42 (36)	8.70 (221)	.83 (21)	.39 (10)	.55 (14)	.35 (9)	3.54 (90)	2.17 (55)	4.33 (110)	1.97 (50)	3.46 (88)	.13 (3.2)
AME550	3/4 • 1	9.41 (239)	.87 (22)	5.04 (128)	4.80 (122)	.12 (3)	4.80 (122)	.39 (10)	1.73 (44)	10.12 (257)	1.18 (30)	.39 (10)	.63 (16)	.35 (9)	3.94 (100)	2.56 (65)	5.12 (130)	2.36 (60)	4.02 (102)	.18 (4.5)
AME650	1, 1 1/2	11.46 (291)	1.26 (32)	6.57 (167)	6.30 (160)	—	6.30 (160)	.39 (10)	2.60 (66)	12.36 (314)	1.57 (40)	.59 (15)	.79 (20)	.43 (11)	5.91 (150)	3.35 (85)	7.09 (180)	2.99 (76)	5.35 (136)	.18 (4.5)
AME850	1 1/2, 2	15.87 (403)	1.65 (42)	9.25 (235)	8.66 (220)	—	8.66 (220)	.39 (10)	3.78 (96)	15.98 (406)	1.18 (30)	.59 (15)	.94 (24)	.51 (13)	7.09 (180)	4.72 (120)	8.66 (220)	4.33 (110)	7.24 (184)	.24 (6.0)

AME450.....SAME, #4
 AME550.....SAME, #5
 AME650.....SAME, #6



Specifications

Fluid	Air
Max. operating pressure PSI (MPa)	150 (1.0)
Min. operating pressure PSI (MPa)	7 psig (0.05)
Proof pressure PSI (MPa)	220 psig (1.5)
Ambient and Fluid temp.	40° ~ 140° F (5° ~60° C)
Filtration	0.01µm (95% efficient)
Cleanliness (secondary side)	3.5 particles/Nℓ or less (100 particles or less per cubic foot)

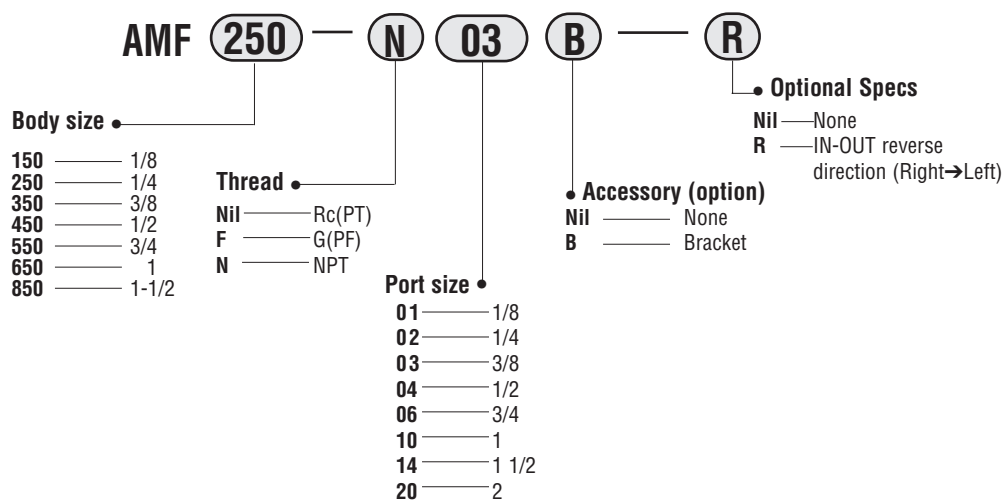
Model

Model	AMF150	AMF250	AMF350	AMF450	AMF550	AMF650	AMF850
Flow capacity Scfm (ℓ/min)	7.1 (200)	17.7 (500)	35.3 (1000)	70.6 (2000)	123.6 (3500)	212 (6000)	424 (12000)
Port Size	1/8• 1/4• 3/8	1/4• 3/8• 1/2	3/8• 1/2• 3/4	1/2• 3/4• 1	3/4• 1	1• 1 1/2	1 1/2 • 2
Weight lbs. (kgf)	.84 (0.38)	1.21 (0.55)	1.98 (0.9)	3.09 (1.4)	4.63 (2.1)	9.26 (4.2)	23.15 (10.5)

Accessories (Optional)

Model	AMF150	AMF250	AMF350	AMF450	AMF550	AMF650	AMF850
Bracket assembly with cap screw and spring washer	BM51	BM52	BM53	BM54	BM55	BM56	BM57

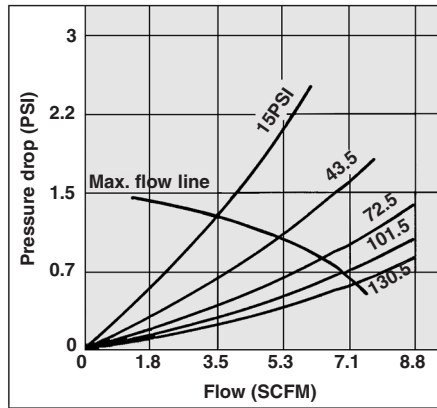
How To Order



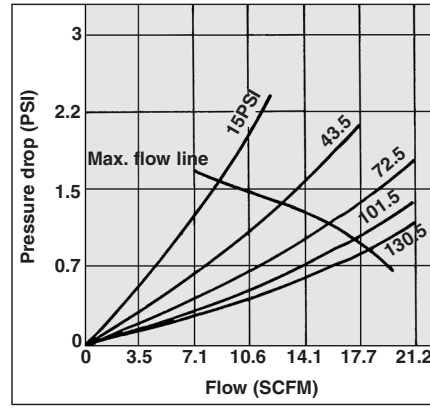
Flow Characteristics / Construction & Part Lists

AMF150, 250, 350, 450, 550, 650, 850

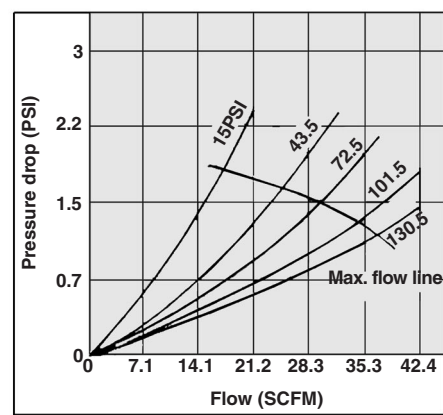
AMF150



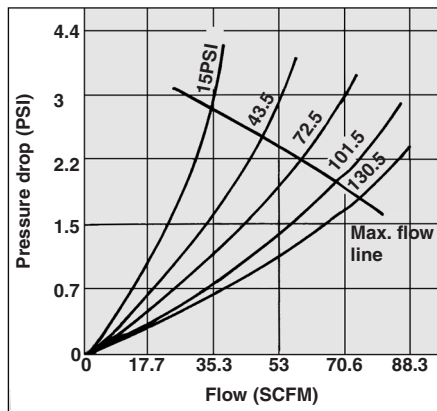
AMF250



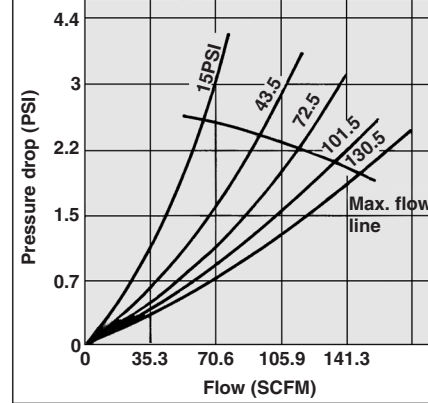
AMF350



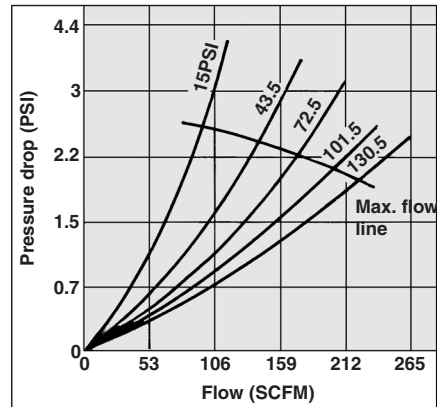
AMF450



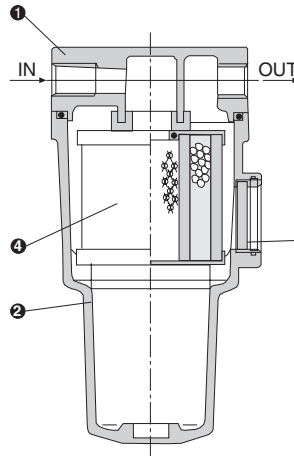
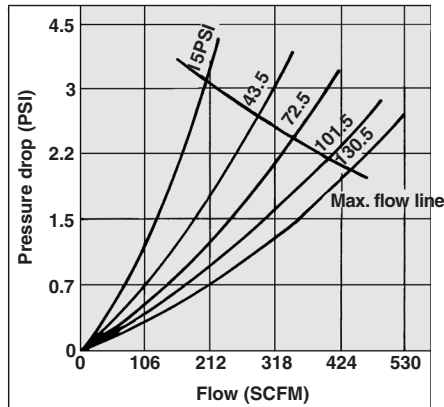
AMF550



AMF650



AMF850



Model Selection

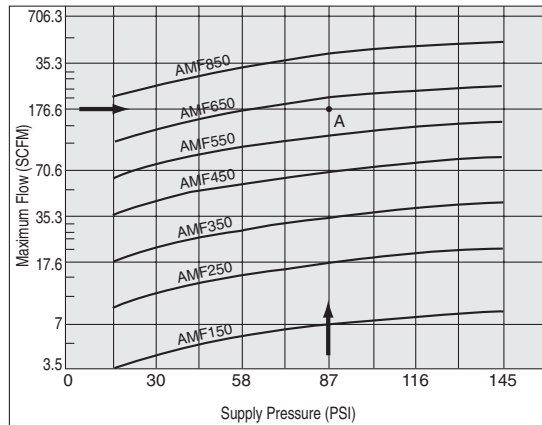
Select the model in accordance with the following procedure taking the inlet pressure and maximum air flow into consideration.

(Example)

Inlet pressure: 87 PSI

Maximum air flow capacity: 176.6 SCFM

1. Select the point of contact A of inlet pressure and maximum air flow capacity in the graph.
2. Select the type whose maximum air flow capacity is over that point; AMF650.



Parts List

No.	Description	Material	Note
①	Body	*Aluminum die cast	Chromate treatment
②	Housing	*Aluminum die cast	Epoxy coating on inner surface
③	Sight Glass	Tempered glass	—

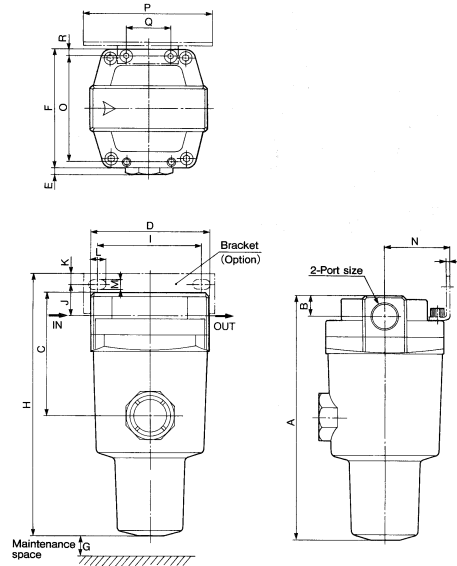
*Aluminum coating for NAMF850

Replacement Parts

No.	Description	Material	Model						
			AMF150	AMF250	AMF350	AMF450	AMF550	AMF650	AMF850
④	Element Ass'y*	Glass Fiber NBR	AMF-EL150	AMF-EL250	AMF-EL350	AMF-EL450	AMF-EL550	AMF-EL650	AMF-EL850

*With gasket and O-ring.

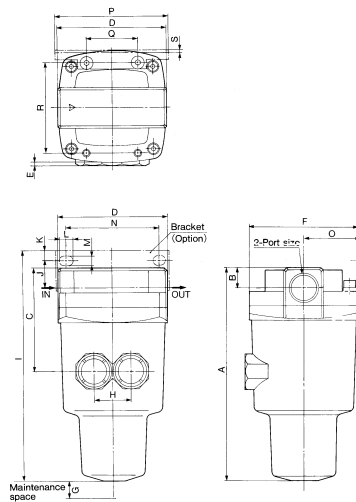
AMF150~350



Model	Port Size	A	B	C	D	E	F	G	Dimensions with mounting bracket											
									H	I	J	K	L	M	N	O	P	Q	R	S
AMF150	1/8 • 1/4 • 3/8	5.47 (139)	.51 (13)	2.17 (55)	2.48 (63)	.30 (7.5)	2.48 (63)	.39 (10)	5.75 (146)	2.20 (56)	.59 (15)	.20 (5)	.35 (9)	.22 (5.5)	1.38 (35)	2.13 (54)	2.76 (70)	1.02 (26)	.18 (4.5)	.06 (1.6)
		5.98 (152)	.51 (13)	2.60 (66)	2.99 (76)	.16 (4)	2.99 (76)	.39 (10)	6.57 (167)	2.60 (66)	.79 (20)	.31 (8)	.47 (12)	.24 (6)	1.57 (40)	2.60 (66)	3.31 (84)	1.10 (28)	.20 (5)	.08 (2.0)
AMF250	1/4 • 3/8 1/2	6.22 (158)	.63 (16)	2.83 (72)	2.99 (76)	.16 (4)	2.99 (76)	.39 (10)	6.57 (167)	2.60 (66)	.67 (17)	.31 (8)	.47 (12)	.24 (6)	1.57 (40)	2.60 (66)	3.31 (84)	1.10 (28)	.20 (5)	.08 (2.0)
		7.24 (184)	.63 (16)	3.62 (92)	3.54 (90)	.20 (5)	3.54 (90)	.39 (10)	7.80 (198)	3.15 (80)	.87 (22)	.31 (8)	.55 (14)	.28 (7)	1.97 (50)	3.15 (80)	3.94 (100)	1.34 (34)	.20 (5)	.09 (2.3)
AMF350	3/8 • 1/2 3/4	7.24 (184)	.63 (16)	3.62 (92)	3.54 (90)	.20 (5)	3.54 (90)	.39 (10)	7.80 (198)	3.15 (80)	.87 (22)	.31 (8)	.55 (14)	.28 (7)	1.97 (50)	3.15 (80)	3.94 (100)	1.34 (34)	.20 (5)	.09 (2.3)
		7.48 (190)	.75 (19)	3.86 (98)	3.54 (90)	.20 (5)	3.54 (90)	.39 (10)	7.80 (198)	3.15 (80)	.75 (19)	.31 (8)	.55 (14)	.28 (7)	1.97 (50)	3.15 (80)	3.94 (100)	1.34 (34)	.20 (5)	.09 (2.3)

AMF150.....SAME, #1; AMF250.....SAME, #2; AMF350.....SAME, #3

AMF450~850



Model	Port Size	A	B	C	D	E	F	G	Dimensions with mounting bracket											
									H	I	J	K	L	M	N	O	P	Q	R	S
AMF450	1/2 • 3/4 1	8.07 (205)	.75 (19)	3.94 (100)	4.17 (106)	.12 (3)	4.17 (106)	.39 (10)	1.42 (36)	8.70 (221)	.98 (25)	.39 (10)	.55 (14)	.35 (9)	3.54 (90)	2.17 (55)	4.33 (110)	1.97 (50)	3.46 (88)	.13 (3.2)
		8.35 (212)	.87 (22)	4.21 (107)	4.17 (106)	.12 (3)	4.17 (106)	.39 (10)	1.42 (36)	8.70 (221)	.83 (21)	.39 (10)	.55 (14)	.35 (9)	3.54 (90)	2.17 (55)	4.33 (110)	1.97 (50)	3.46 (88)	.13 (3.2)
AMF550	3/4 • 1	9.41 (239)	.87 (22)	5.04 (128)	4.80 (122)	.12 (3)	4.80 (122)	.39 (10)	1.73 (44)	10.12 (257)	1.18 (30)	.39 (10)	.63 (16)	.35 (9)	3.94 (100)	2.56 (65)	5.12 (130)	2.36 (60)	4.02 (102)	.18 (4.5)
AMF650	1 • 1 1/2	11.46 (291)	1.26 (32)	6.57 (167)	6.30 (160)	—	6.30 (160)	.39 (10)	2.60 (66)	12.36 (314)	1.57 (40)	.59 (15)	.79 (20)	.43 (11)	5.91 (150)	3.35 (85)	7.09 (180)	2.99 (76)	5.35 (136)	.18 (4.5)
AMF850	1 1/2 • 2	15.87 (403)	1.65 (42)	9.25 (235)	8.66 (220)	—	8.66 (220)	.39 (10)	3.78 (96)	15.98 (406)	1.18 (30)	.59 (15)	.94 (24)	.51 (13)	7.09 (180)	4.72 (120)	8.66 (220)	4.33 (110)	7.24 (184)	.24 (6.0)

AMF150.....SAME, #1; AMF250.....SAME, #2; AMF350.....SAME, #3



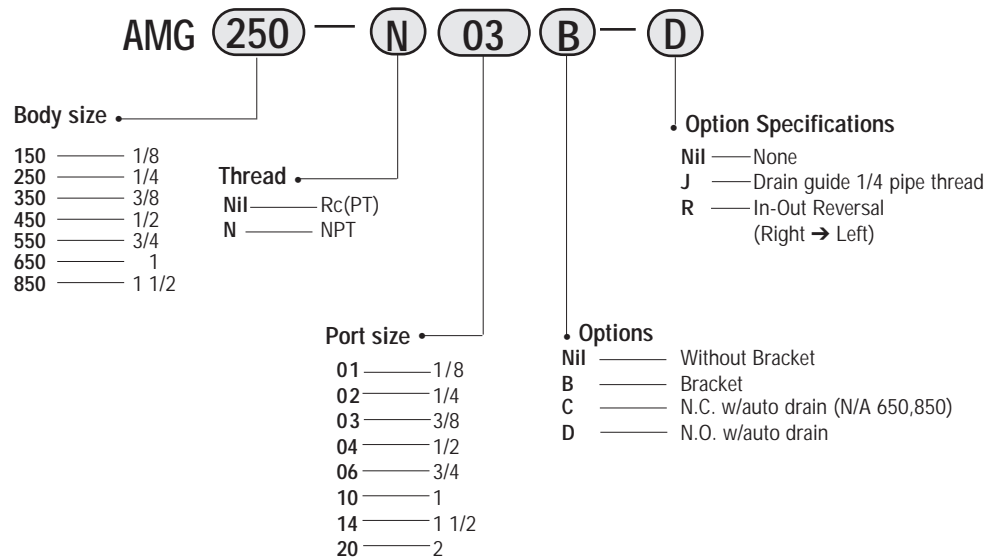
Specifications

Model	AMG150	AMG250	AMG350	AMG450	AMG550	AMG650	AMG850
Air Compressor kw	2.2	5.5	11	15	22	37	75
Flow Rate(/min) scfm	10.6 (300)	26.5 (750)	53 (1500)	77.7 (2200)	123.6 (3500)	212 (6000)	424 (12000)
Port Size	1/8•1/4•3/8	1/4•3/8•1/2	3/8•1/2•3/4	1/2•3/4•1	3/4•1	1•1 1/2	1 1/2•2
Auto Drain	N.C.	•	•	•	•		
	N.O.	•	•	•	•	•	•
Weight lbs. (kgf)	.84 (0.38)	1.21 (0.55)	1.98 (0.9)	3.09 (1.4)	4.63 (2.1)	9.26 (4.2)	23.15 (10.5)

Accessories

Model	AMG150	AMG250	AMG350	AMG450	AMG550	AMG650	AMG850
Bracket assembly with cap screw and spring washer	BM51	BM52	BM53	BM54	BM55	BM56	BM57

How To Order

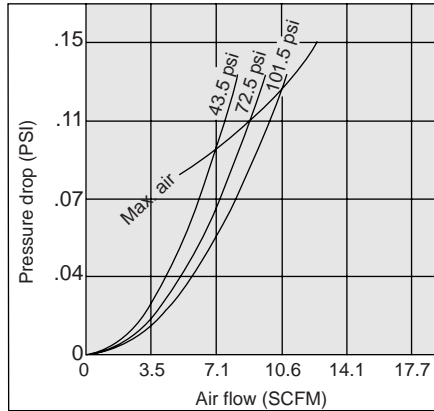


Flow Characteristics

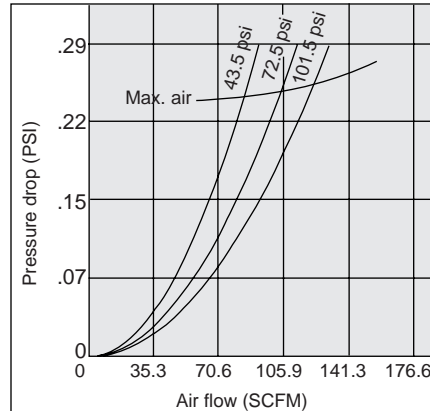
Initial condition of element

Note) If flow rate is over the maximum, water separator will not operate properly.

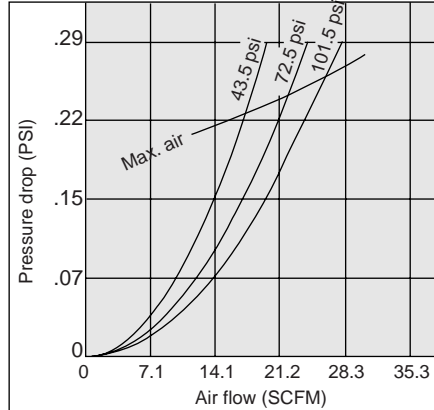
AMG150 NPT 1/8



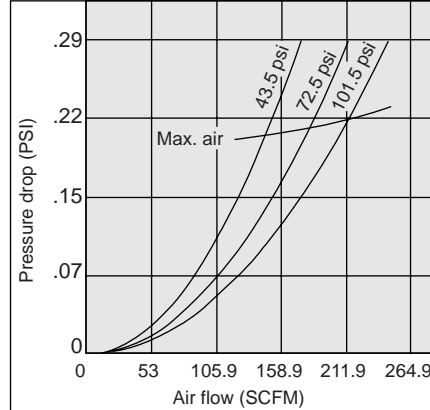
AMG550



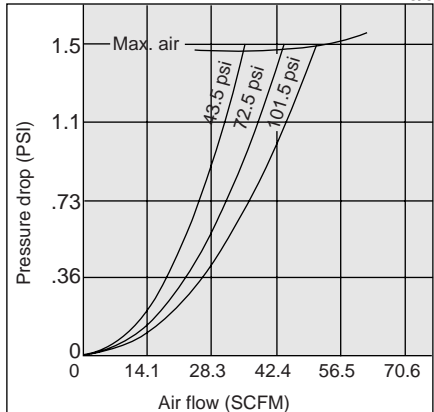
AMG250 NPT 1/4



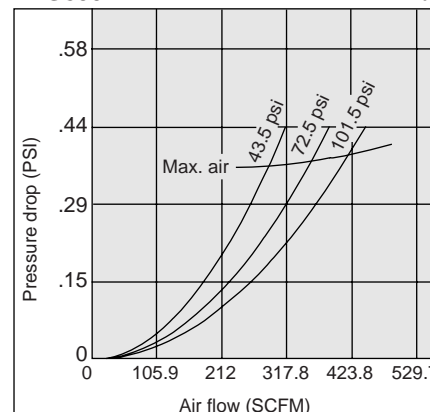
AMG650 NPT 1



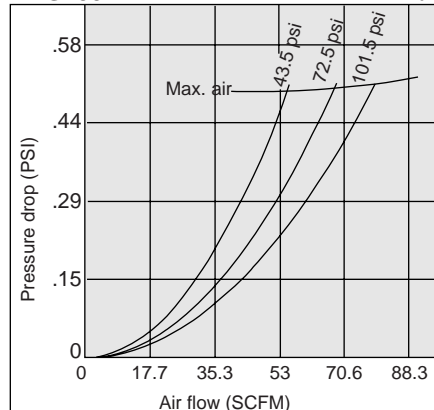
AMG350 NPT 3/8



AMG850 NPT 1 1/2



AMG450 NPT 1/2



Precautions

Be sure to read before handling. Refer to page 6 for Safety Instructions, and precautions common to products mentioned in this volume and refer to pages 7 and 8 for more detailed precautions of every series.

Design

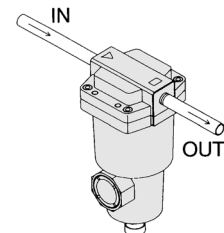
<Caution>

- ① Plan a design to locate this product in a location that is not likely to create pulsations. If the internal/external pressure difference exceeds 15 PSI, the element could break.
- ② When using an auto drain, drain pipes must be connected within the following range:
 - Normally closed (N.C.) }
 - Normally open (N.O.) }
 Tube fittings are provided. Therefore, use a ø3/8mm external tube, and keep the pipe length within 16.5 ft AMG850 type (N.O.)
 - Use a tube with a minimum bore of 9mm, and keep its length within 9 ft.
 When using a normally open (N.O.) auto drain, because the valve does not close until the air pressure becomes higher than 22 PSI, the air could keep discharging from the drain discharge section of an air compressor with a small air discharge volume. Therefore, make sure to use a normally closed (N.C.) auto drain with a compressor under 3.7kW.
- ③ The bracket that is provided with the product is for supporting the product itself. Separate supports must be provided for piping and other connection devices.

Installation

<Caution>

- ① Verify the direction of the compressed air flow and the "▷" mark that indicates the inlet side of the product before connecting. It cannot be used with its direction reversed.



- ② Make sure to install this product horizontally. If it is installed diagonally, sideways, or upside down, the drainage that was separated by the element will splash to the secondary side.

Maintenance

<Caution>

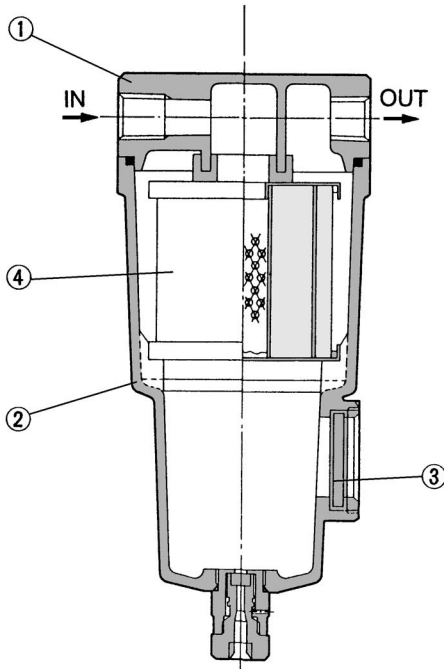
- ① The element replacement period is when the pressure drop has reached 15 PSI or 2 years have elapsed after it has been put into use, whichever comes first.
- ② When it is time to replace the element, immediately replace it with a new element. Also replace the O-ring and the gasket with new ones when replacing the element.
- ③ When using a product equipped with a drain valve, drain guide, or a ball valve, discharge the drainage before the drain fluid surface reaches the center of the sight glass. If it is not discharged properly, the drainage will flow out to the secondary side.

Ambient Dryer

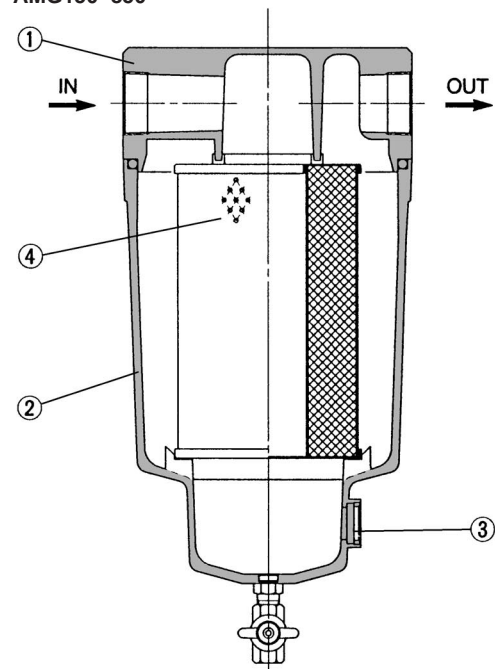
AMG150, 250, 350, 450, 550, 650, 850

Construction/Parts List

AMG150~650



AMG150~850



Component Parts

No.	Description	Material	Remark
①	Body	Aluminum die-cast	Chromate treatment, Epoxy coating on inner surface
②	Housing	Aluminum die-cast*	
③	Sight glass	Tempered glass	

*AMG850: Aluminum casting

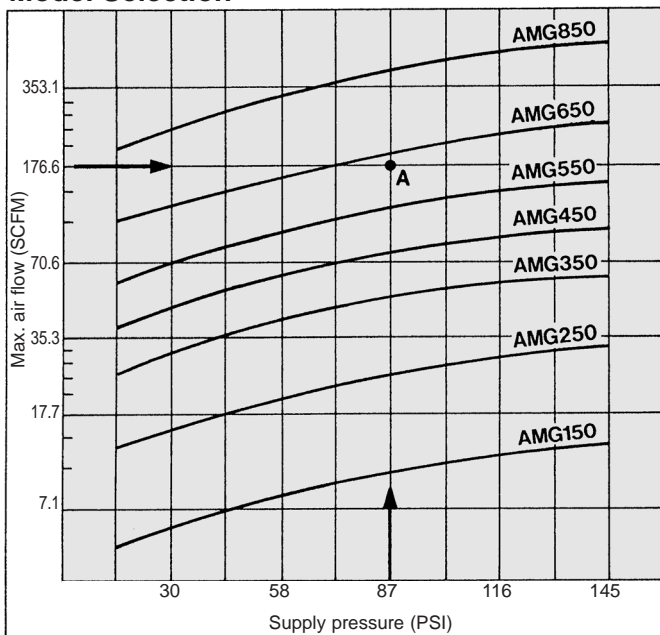
Note: Constructions show sight glass, but mounting position is different from actual position. Please refer to dimensional drawings for more detail.

Replacement Parts

No.	Description	Material	Type						
			AMG150	AMG250	AMG350	AMG450	AMG550	AMG650	AMG850
④	Element assembly	Resin NBR	AMG-EL150	AMG-EL250	AMG-EL350	AMG-EL450	AMG-EL550	AMG-EL650	AMG-EL850

*With gasket, With O-ring

Model Selection



How to Select Model

Follow the procedure given below to select the model in accordance with the inlet pressure and maximum air flow rate requirements.

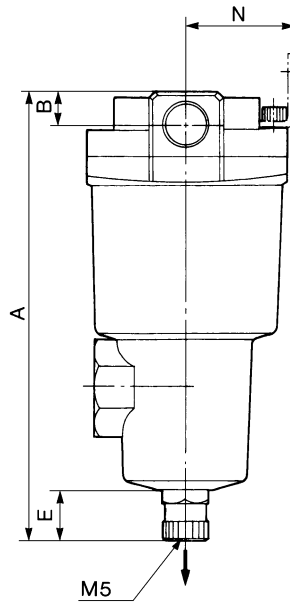
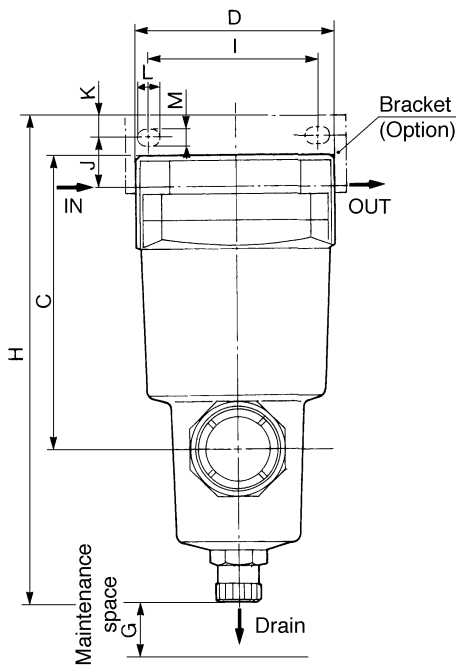
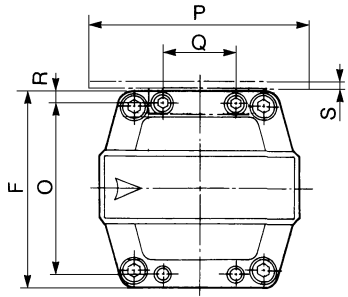
(Example) Inlet pressure : 0.6 MPa {87 PSI}

Maximum air flow rate : 176.6 SCFM

① Using the "Max. air flow", find point A, at which the input pressure and the maximum air flow rate intersect.

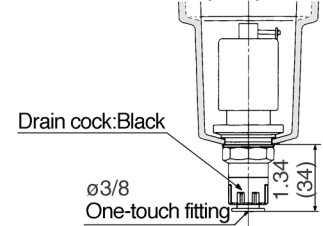
② To select one with the maximum air flow rate line that is located above the obtained intersecting point A, the model will be AMG650.

Note) Make sure to select a model with the maximum air flow rate line that is located above the obtained intersection point. A model with the maximum air flow rate line that is located below the obtained intersection point will have an excess flow rate, and will cause a problem such as being unable to satisfy the specifications.

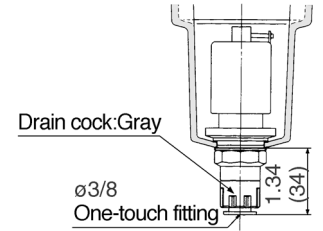


Accessories

D: With auto drain (N.O.)



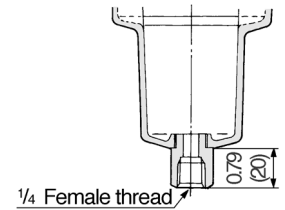
C: With auto drain (N.C.)



*N.C. type of AMG650 is not available.

Optional Specifications

J: With drain guide

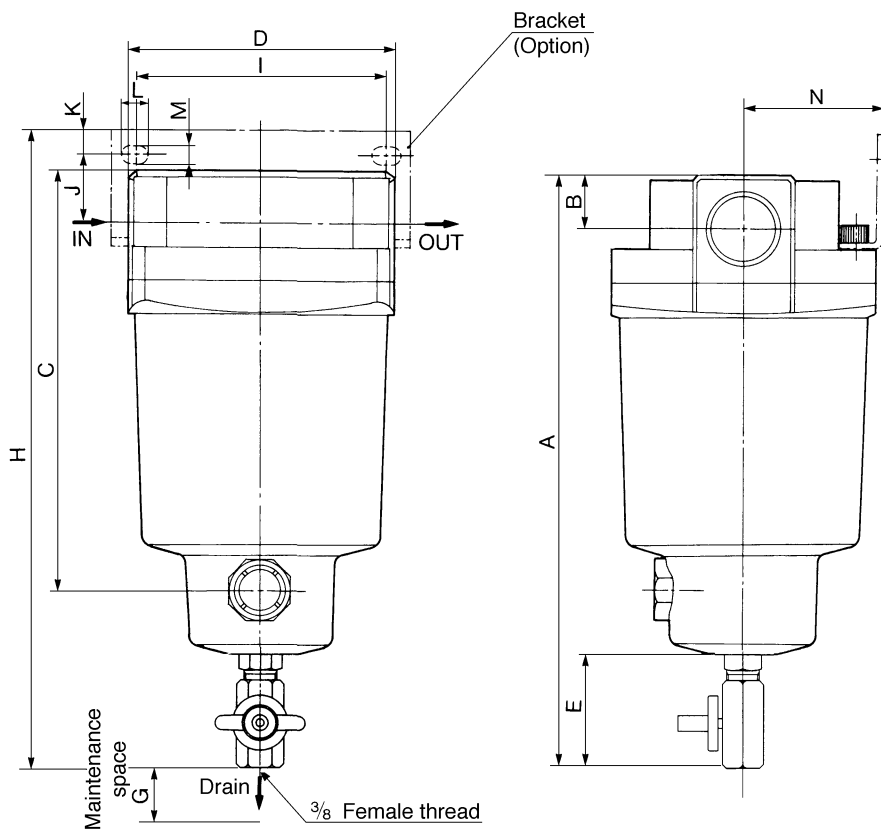
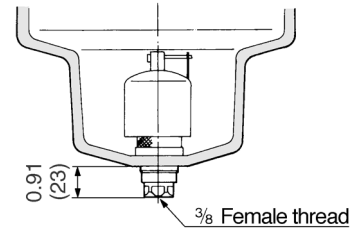
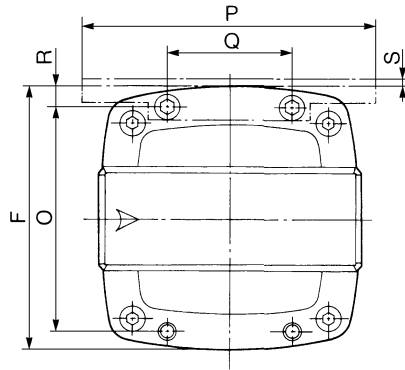


Model	Port Size	A	B	C	D	E	F	G	Dimensions with mounting bracket											
									H	I	J	K	L	M	N	O	P	Q	R	S
AMG150	1/8, 1/4, 3/8	6.26 (159)	.51 (13)	3.94 (100)	2.48 (63)	.79 (20)	2.48 (63)	.39 (10)	6.54 (166)	2.20 (56)	.59 (15)	.20 (5)	.35 (9)	.22 (5.5)	1.38 (35)	2.13 (54)	2.76 (70)	1.02 (26)	.18 (4.5)	.06 (1.6)
	1/4, 3/8	6.77 (172)	.51 (13)	4.45 (113)	2.99 (76)	.79 (20)	2.99 (76)	.39 (10)	7.36 (187)	2.60 (66)	.79 (20)	.31 (8)	.47 (12)	.24 (6)	1.57 (40)	2.60 (66)	3.31 (84)	1.10 (28)	.20 (5)	.08 (2.0)
AMG250	1/2	7.01 (178)	.63 (16)	4.69 (119)	2.99 (76)	.79 (20)	2.99 (76)	.39 (10)	7.36 (187)	2.60 (66)	.67 (17)	.31 (8)	.47 (12)	.24 (6)	1.57 (40)	2.60 (66)	3.31 (84)	1.10 (28)	.20 (5)	.08 (2.0)
	3/8, 1/2	8.03 (204)	.63 (16)	5.71 (145)	3.54 (90)	.79 (20)	3.54 (90)	.39 (10)	8.58 (218)	3.15 (80)	.87 (22)	.31 (8)	.55 (14)	.28 (7)	1.97 (50)	3.15 (80)	3.94 (100)	1.34 (34)	.20 (5)	.09 (2.3)
AMG350	3/4	8.27 (210)	.75 (19)	5.94 (151)	3.54 (90)	.79 (20)	3.54 (90)	.39 (10)	8.58 (218)	3.15 (80)	.75 (19)	.31 (8)	.55 (14)	.28 (7)	1.97 (50)	3.15 (80)	3.94 (100)	1.34 (34)	.20 (5)	.09 (2.3)
	1/2, 3/4	8.86 (225)	.75 (19)	6.54 (166)	4.17 (106)	.79 (20)	4.17 (106)	.39 (10)	9.49 (241)	3.54 (90)	.98 (25)	.39 (10)	.55 (14)	.35 (9)	2.17 (55)	3.46 (88)	4.33 (110)	1.97 (50)	.35 (9)	.13 (3.2)
AMG450	1	9.13 (232)	.87 (22)	6.81 (173)	4.17 (106)	.79 (20)	4.17 (106)	.39 (10)	9.49 (241)	3.54 (90)	.83 (21)	.39 (10)	.55 (14)	.35 (9)	2.17 (55)	3.46 (88)	4.33 (110)	1.97 (50)	.35 (9)	.13 (3.2)
	3/4, 1	10.20 (259)	.87 (22)	7.87 (200)	4.80 (122)	.79 (20)	4.80 (122)	.39 (10)	10.91 (277)	3.94 (100)	1.18 (30)	.39 (10)	.63 (16)	.35 (9)	2.56 (65)	4.02 (102)	5.12 (130)	2.36 (60)	.39 (10)	.18 (4.5)
AMG550	1, 1 1/2	12.24 (311)	1.26 (32)	9.96 (253)	6.30 (160)	.79 (20)	6.30 (160)	.39 (10)	13.15 (334)	5.91 (150)	1.57 (40)	.59 (15)	.79 (20)	.43 (11)	3.35 (85)	5.35 (136)	7.09 (180)	2.99 (76)	.47 (12)	.18 (4.5)

AMG150.....SAM, #1 AMG450.....SAM, #4
 AMG250.....SAM, #2 AMG550.....SAM, #5
 AMG350.....SAM, #3 AMG650.....SAM, #6

Accessories

D: With auto drain (N.O.)
for AMG850



Model	Port size (Nominal size B)	A	B	C	D	E	F	G	Mounting Dimensions											
									H	I	J	K	L	M	N	O	P	Q	R	S
AMG850	1 ¹ / ₂ , 2	18.13 (460.5)	1.65 (42)	13.70 (348)	8.66 (220)	2.24 (57.5)	8.66 (220)	.39 (10)	18.25 (463.5)	7.09 (180)	1.18 (30)	.59 (15)	.94 (24)	.51 (13)	4.72 (120)	7.24 (184)	8.66 (220)	4.33 (110)	.71 (18)	.24 (6.0)

AMG850.....SAM, #7



NAD402



NAD600

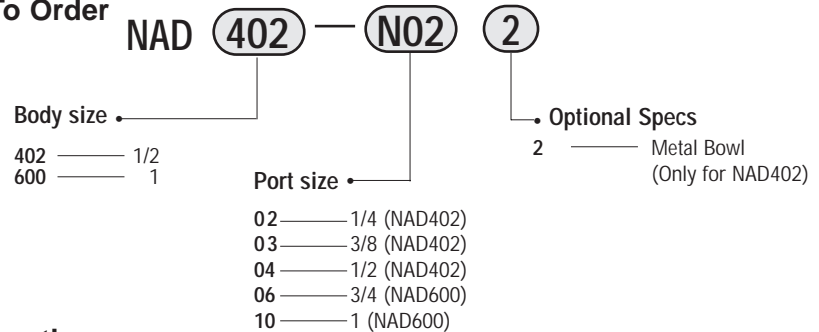
Specifications

Model	NAD402	NAD600
Proof pressure psig (MPa)	220 (1.5)	
Max. operating pressure psig (MPa)	150 (1.0)	
Pressure operating range psig (MPa)	15~150 (0.1~1.0)	45~150 (0.3~1.0)
Operating temperature range	23~140° F (-5~60° C)	
Pipe size	1/4• 3/8• 1/2	3/4• 1
Drain exhaust port size	3/8	3/4• 1
Weight lbs (kgf)	1.37 (.62)	4.63 (2.1)
Body	ADC	ZDC
Bowl	Nylon	ZDC

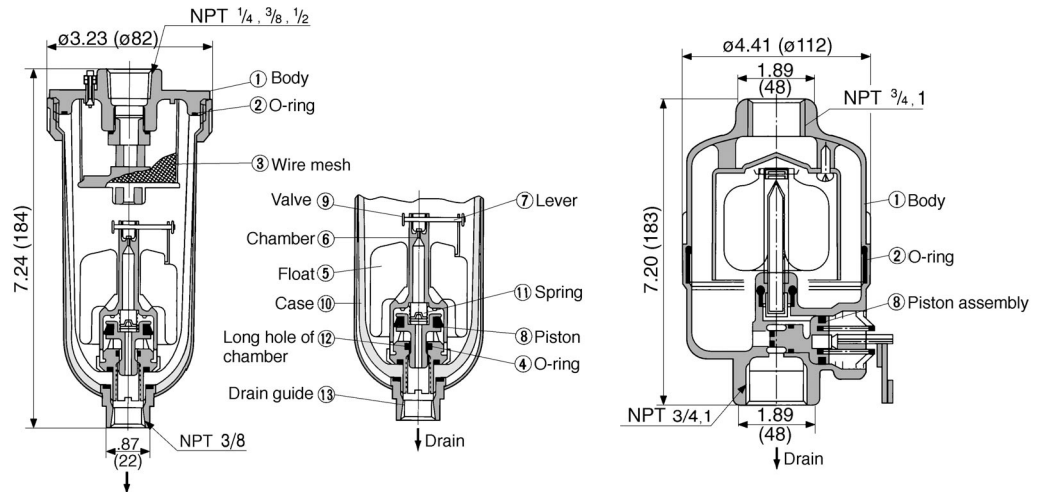
Options

Option	NAD402- * -2	NAD600
Metal Bowl	NAD402- * -2	—

How To Order



Construction



Main Parts

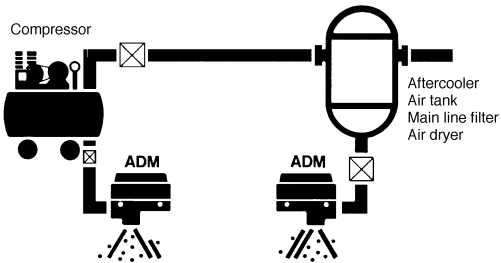
No.	Description	Material
1	Body	Aluminum die casting

Parts List

No.	Description	Material	Model	
			NAD402	NAD600
2	O-ring	NBR	113136	G100
3	Wire Mesh	SUS	20062	—
See Note	Drain Ass'y	—	NAD34PA	—
6	Packing	—	—	20025A

Note: Drain assembly of items 4~12 excluding 10.

Electric Auto Drain Valve
NADM200



Specifications

Model	NADM200
Fluid	Air
Proof pressure psig (MPa)	220 (1.5)
Max. operating pressure psig (MPa)	150 (1.0)
Operating temperature range	23~140° F (-5~60° C)
Operating cycle	1 cycle/min (standard)
Operating time	2 sec/cycle
Power	AC100V, 200V, 50/60Hz
Power consumption	4W
Pipe size	in: 3/8, 1/2
	out: 3/8
Weight lb (kgf)	1.21 (.55)
Body	ADC 12
Cap	ADC 12

How To Order

NADM200—(N03) (1) — (4)

Pipe size

	IN	OUT
03	3/8	3/8
04	1/2	3/8

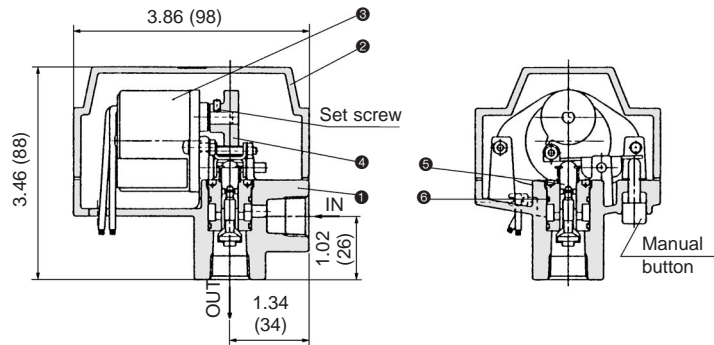
Options

- 1 — AC100V 50/60 Hz
- 2 — AC200V 50/60 Hz
- 3 — AC240V 50/60 Hz
- 4 — AC110V 50/60 Hz
- 5 — AC220V 50/60 Hz
- 6 — DC24V
- 7 — DC12V

Operating time/Applicable compressor

- Nil — 2 sec./min. (1 cycle/min.) / 3.7 to 37kW
- 4 — 4 sec./min. (2 cycle/min.) / 37 to 75kW
- 6 — 6 sec./min. (3 cycle/min.) / 75 to 110kW
- 8 — 8 sec./min. (4 cycle/min.) / 220 to 370kW

Dimensions



Component parts

No.	Description	Material	Remark
①	Body	ADC12	Chromate treatment
②	Cap	ADC12	Chromate treatment

Replacement parts

No.	Description	Material	Part No.
③ ¹	Motor	—	812PG -voltage
④	Cam	SCS13	201324 (Standard)
⑤	Valve assembly	C3604B	20137-1A
⑥	O-ring	NBR	S-16

Note¹ Part No. of motor for 100VAC: 812PG-AC100V

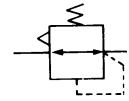
Non-Modular Specialty Regulators

Non-Modular Specialty Regulators . . .134-173

NARJ210 Mini Regulator	134-135
NARJ310 Mini Regulator	136-138
NARJ1020F Mini Regulator with One-touch Fitting	139-140
NARM1000~2000 Manifold Regulator	141-143
NARM2500~3000 Manifold Regulator	144-147
NAP100 Pressure Relief Valve	149
NAR111 Light Weight Regulator	150
NAR425~935 High Flow Regulator	151-153
ARX High Pressure Regulator	154-156
NIR1000~3000 Precision Regulator	157-164
NVBA2100~4200 Booster Regulator	165-169
NVBA1100 Booster Regulator	170-173

Mini Regulator
NARJ210

ANSI Symbol



NARJ210-M5



NARJ210-M5BG

Standard Specifications

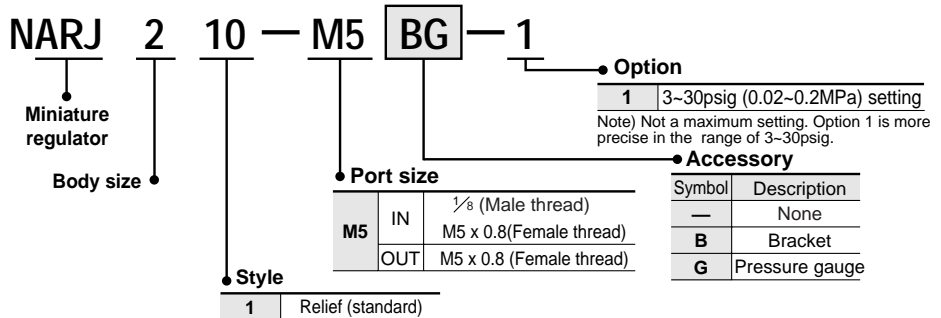
Model		NARJ210-M5
Port size	IN side	1/8 (Male thread), 10-32 Nom. [M5 x 0.8 (Female thread)]
	OUT side	10-32 Nom. [M5 x 0.8 (Female thread 2 ports)]
Fluid	Air	
Proof pressure psig (MPa)	175 (1.2)	
Max. operating pressure psig (MPa)	115 (0.8)	
Set pressure range psig (MPa)	30~100 (0.2~0.7)	
Pressure gauge port size	10-32 Nom. [M5 x 0.8(Female thread)]	
Ambient and fluid temperature	23°~140°F (-5 to 60°C) (No freezing)	
Weight lb (kgf)	.13 (0.06)	

Accessory (Option) Part Numbers

Bracket	134856
Pressure gauge ¹	K27A-P1.0-N01M

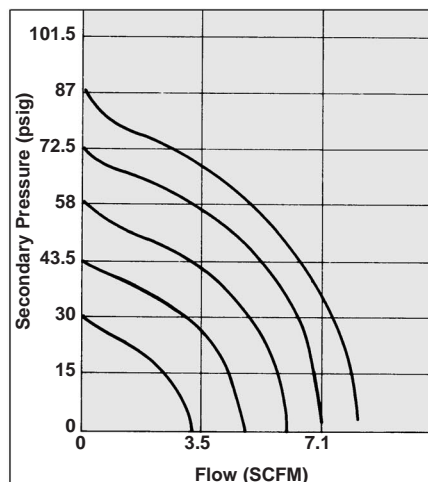
Note¹ If ordering the pressure gauge, M-5N (nipple) is required.

How to Order



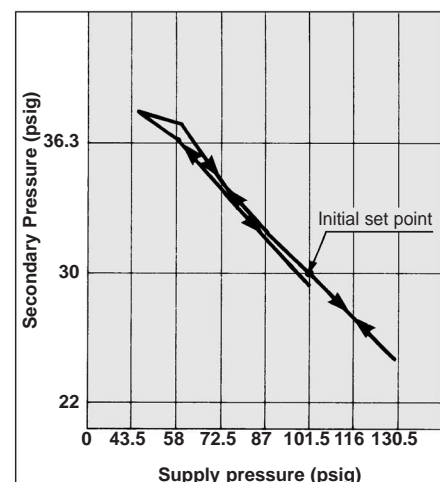
Flow Characteristics

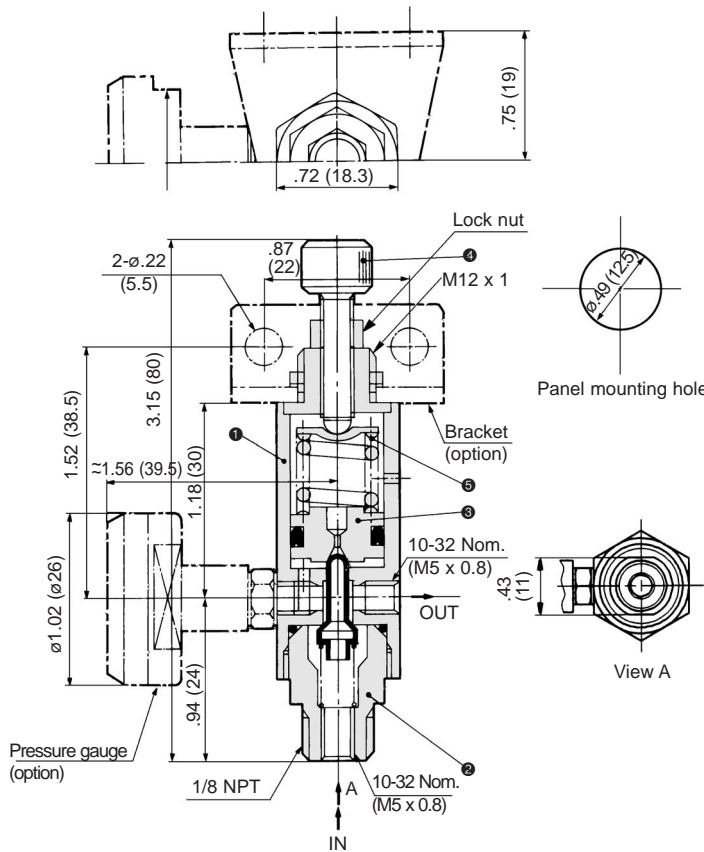
Supply pressure 100psig (0.7MPa)



Pressure Characteristics

Initial setting: Supply pressure: 100psig (0.7MPa)
Secondary pressure: 30psig (0.2MPa)
Flow: 0.7SCFM [20 l/min(ANR)]





Precautions

Be sure to read before handling. Refer to page 6 for Safety Instructions, and precautions common to products mentioned in this volume and refer to pages 7 and 8 for more detailed precautions of every series.

Selection

<Warning>

- ❶ This product cannot be used as a check regulator by installing it between the solenoid valve and the actuator. Doing so could lead to equipment damage or malfunction.
- ❷ When connecting a pipe to the IN port, hold the valve guide at its wrench flats (not body ❶), and when connecting to the OUT side, hold the body at its hexagon portion and tighten it to the recommended torque. (M5: 13~18 lb•in (1.5~2Nm), NPT 1/8: 62~80 lb•in (7~9Nm)). Excessive torque or holding it other than at the specified area could lead to equipment damage.
- ❸ When connecting piping to the product or operating the handle, make sure that no bending moment is applied to the product in order to prevent damage.

Mounting/Adjustment

<Warning>

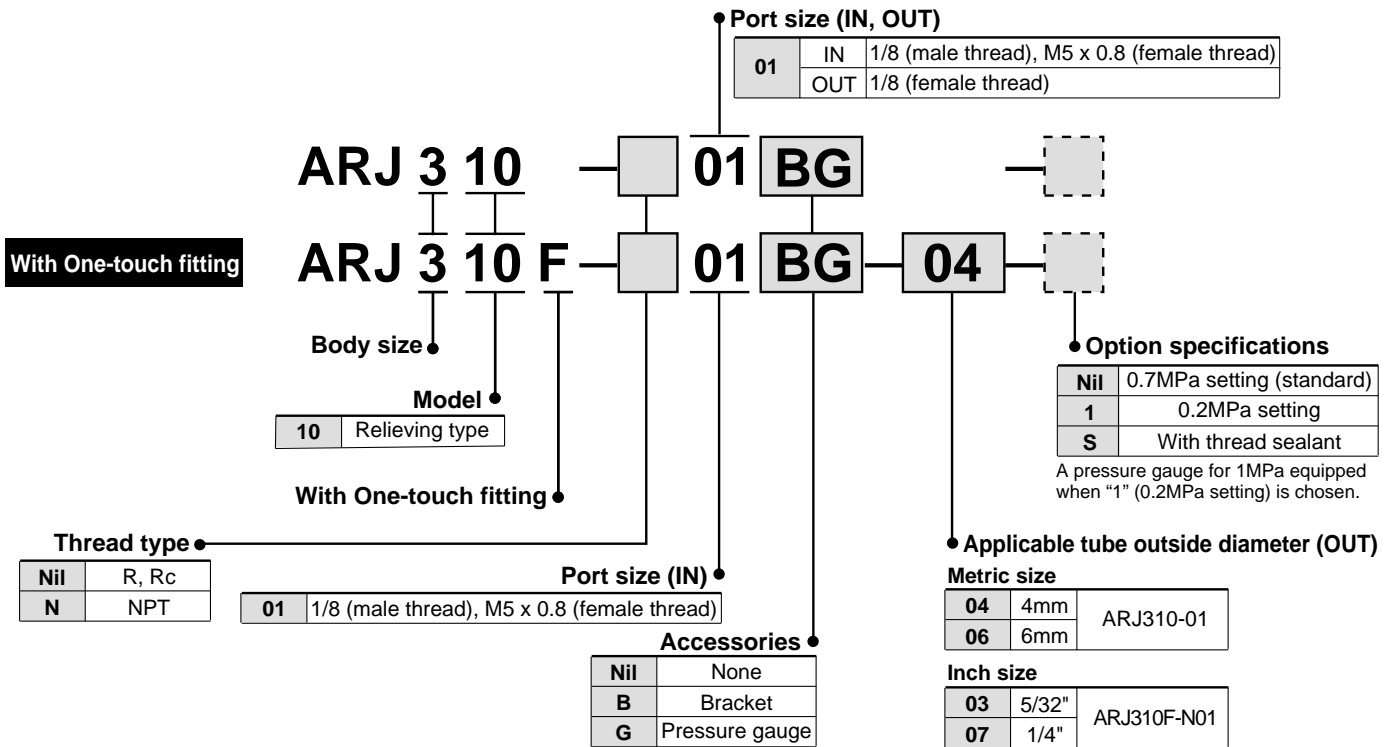
- ❶ Set up the regulator while verifying the pressure that is indicated on the primary and the secondary pressure gauges. Turning the handle excessively could damage the internal parts.

Caution

- ❶ Release the lock to adjust the pressure. After the adjustment, engage the lock. Failure to observe this procedure could damage the handle or cause the secondary pressure to fluctuate.
(Lock operating method)
Loosen the lock nut to unlock it, and tighten it to lock it.

No.	Description	Material	Note
❶	Body	Aluminum alloy	Black alumite
❷	Valve guide	Brass	Electroless nickel plating
❸	Piston	Brass	
❹	Adjusting screw	Brass	Electroless nickel plating
❺	Adjusting spring	Steel wire	Zinc chromate

How to Order



Model



Model	Port size	
	IN (Note)	OUT
ARJ310-01	R 1/8, M5 x 0.8	Rc 1/8
ARJ310-N01	NPT 1/8, M5 x 0.8	NPT 1/8
ARJ310F-01-04	R 1/8, M5 x 0.8	ø4 One-touch fitting
ARJ310F-01-06		ø6 One-touch fitting
ARJ310F-N01-03	NPT 1/8, M5 x 0.8	ø5/32 One-touch fitting
ARJ310F-N01-07		ø1/4 One-touch fitting

(Note) M5 x 0.8 female thread is cut inside the pipe.

Standard Specifications

Pressure gauge port size	Rc 1/8, NPT 1/8 (female thread)
Fluid	Air
Proof pressure	1.2MPa
Maximum operating pressure	0.8MPa
Regulating pressure range	Standard: 0.2 to 0.7MPa, Low pressure use (0.2MPa setting): 0.05 to 0.2MPa
Ambient and operating temperature range	-5 to 60°C (with no freezing)
Weight	Approx. 65g

Optional Accessory Part Numbers

Bracket	134856
Pressure gauge (Note)	G15-10-01 (Rc 1/8)/G15-P10-N01(NPT 1/8)

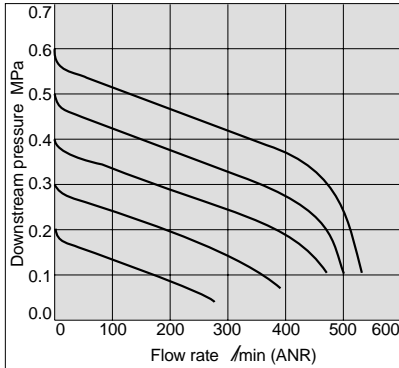
(Note) Pressure gauges for 0.2MPa are not available.

1" = 25.4 mm

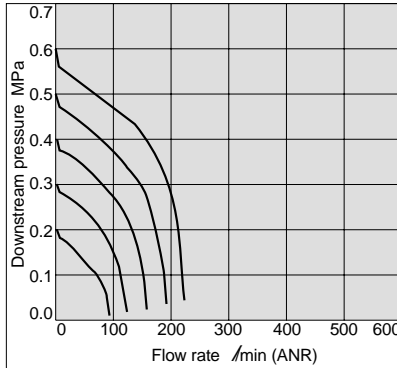
Flow characteristics

Conditions: Upstream pressure 0.7MPa

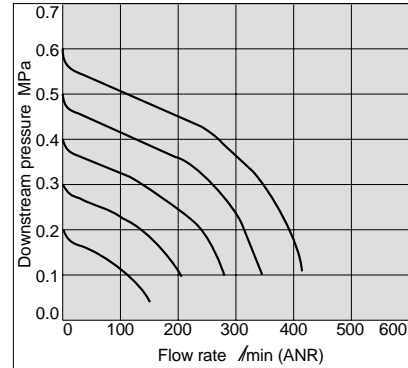
ARJ310-01



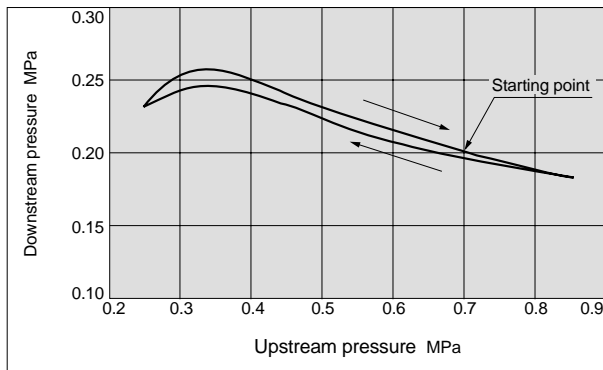
ARJ310F-01-04



ARJ310F-01-06



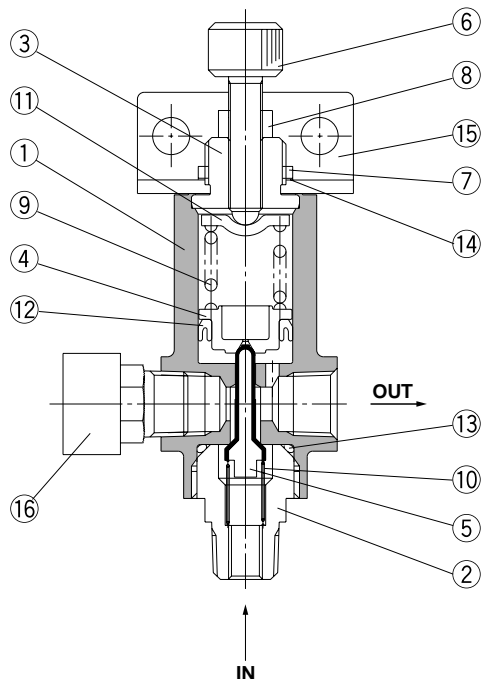
Pressure Characteristics



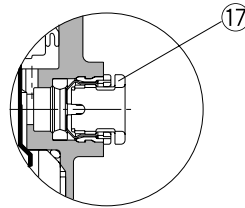
Conditions:
Upstream pressure 0.7MPa
Downstream pressure 0.2MPa
Flow rate Q = 20 l/min (ANR)

Construction

ARJ310-01



ARJF310F-01

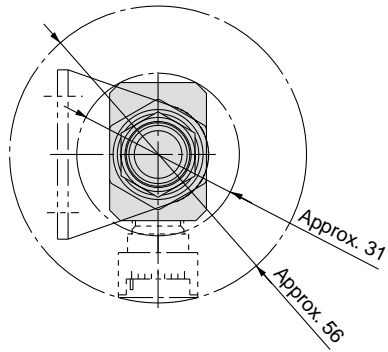


Parts list

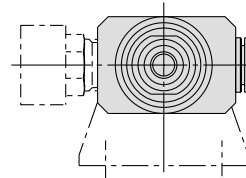
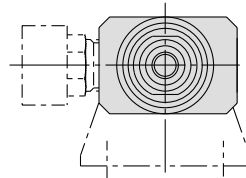
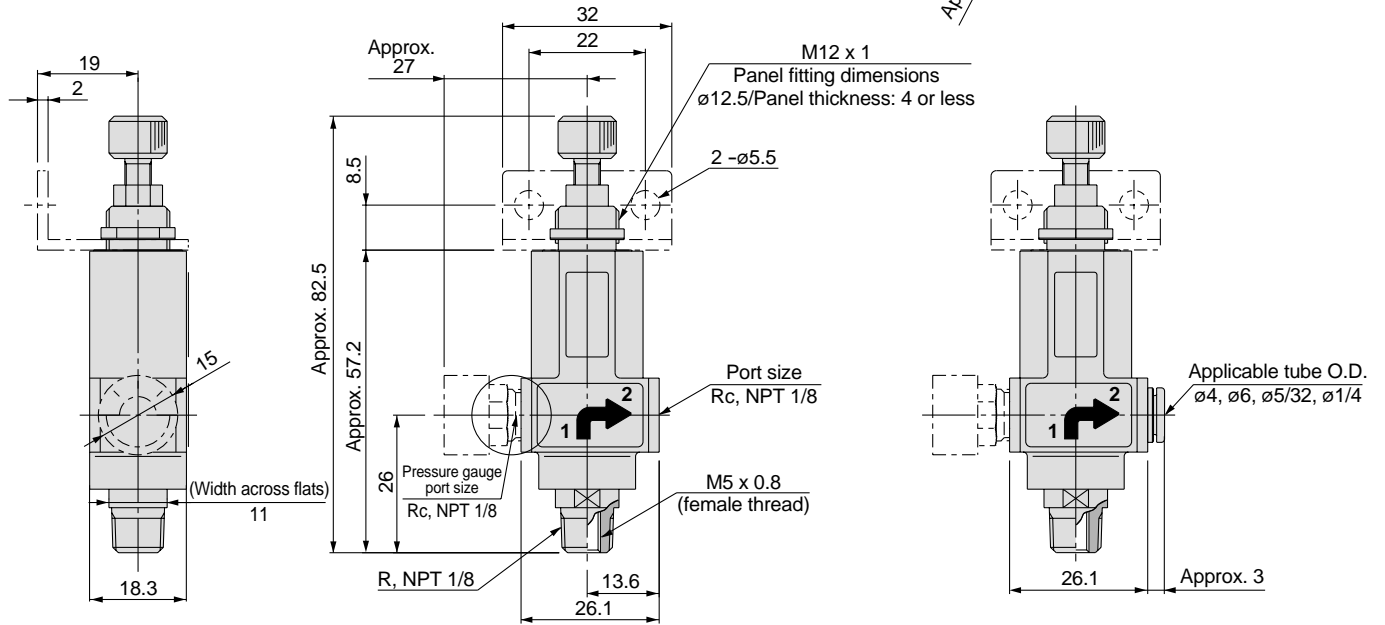
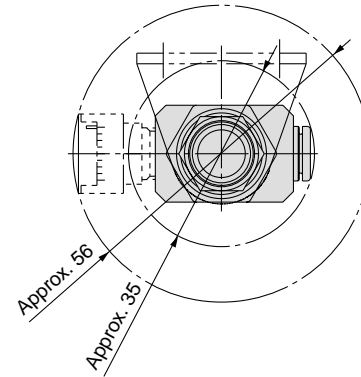
No.	Description	Material	Note
1	Body	Aluminum alloy	
2	Valve guide	Brass	Electroless nickel plated
3	Bonnet	Brass	Electroless nickel plated
4	Piston	POM	
5	Valve	Brass	Rubber lining material: HNBR
6	Adjusting screw	Brass	Electroless nickel plated
7	Panel nut	Brass	Electroless nickel plated
8	Hexagon nut	Brass	Electroless nickel plated
9	Adjusting spring	Steel wire	Zinc chromated
10	Valve spring	Stainless steel	
11	Spring holder	Steel band	Zinc chromated
12	Mini Y seal	NBR	
13	O-ring	NBR	
14	Lock washer	SS	Electroless nickel plated
15	Bracket	Steel band	Black zinc chromated Accessory
16	Pressure gauge	-	Accessory
17	Cassette	POM, Stainless steel	

Dimensions

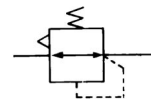
ARJ310-01



ARJ310F-01



Mini Regulator
NARJ1020F

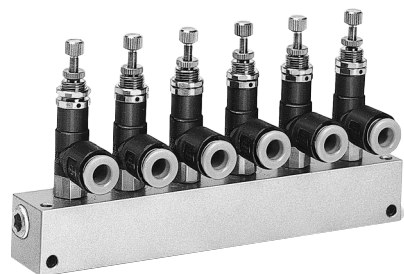


NARJ1020F-M5-04



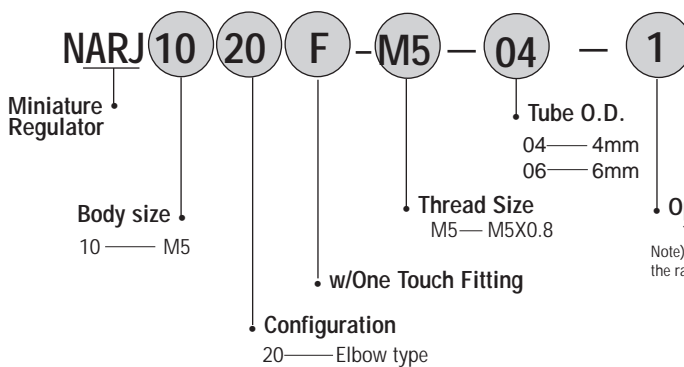
NARJ1020F-M5-05

Model		NARJ1020F	
Piping	IN (Threaded)	10-32 Nom. (M5)	
	OUT (Tube Size)	ø4mm	ø6mm
Proof Pressure psig (MPa)		175 (1.2)	
Operating Pressure psig (MPa)		115 (0.8)	
Regulating Pressure psig (MPa)		15 ~ 100 (0.1 ~ 0.7)	
Temperature		23~140° F (-5° ~ 60° C)	
Construction		Relieving style	
Weight lbs (kgf)		0.033 (0.015)	0.035 (0.016)
Applicable Tubing		Nylon, Soft Nylon, Polyurethane	
Option			
Manifold Option		NARJM10-4, -6, -10	

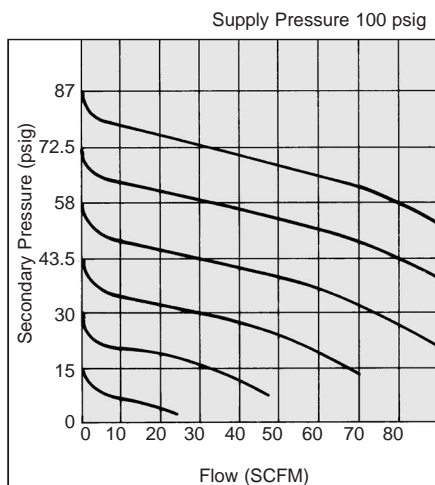


NARJM10-6

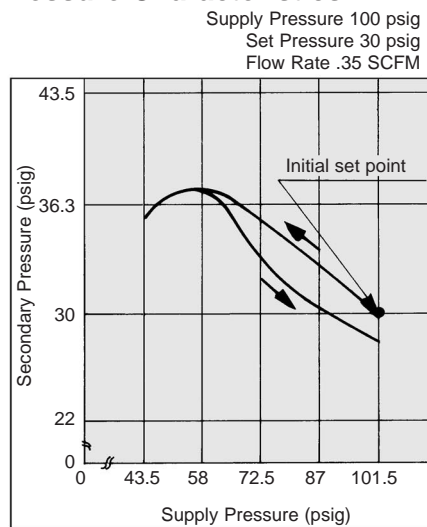
How To Order



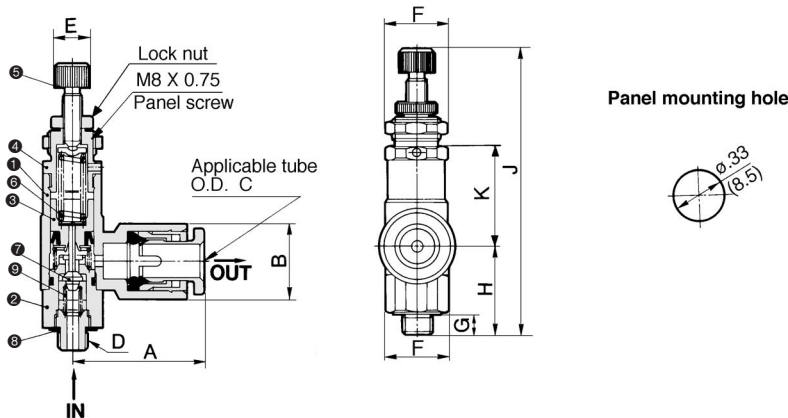
Flow Characteristics



Pressure Characteristics



Mini Regulator
NARJ1020F



Tube Insertion and Removal from Self-Seal Fitting

Installing Tube

- ❶ Cut the tube perpendicularly, taking care not to damage its exterior. (Use tube cutter TK-1. Do not cut the tube with cutting pliers, nippers, scissors, etc.)
- ❷ Grasp the tube, then slowly push it into the One-touch fitting until it comes to a dead-end.
- ❸ Then pull it back gently to make sure that it does not pull out.

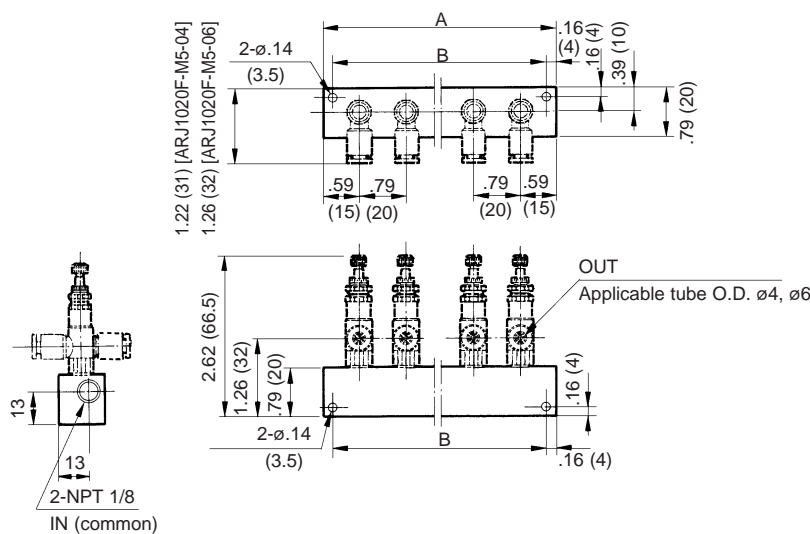
Removing Tube

- ❶ Push the release collar into the fitting. The collar should be pushed evenly.
- ❷ Pull out the tube while pushing the release collar. (Insufficient depression of the release collar results in difficulty pulling-out the tube and may result in damage of the tube.)
- ❸ To re-use the removed tube, cut off any damaged portion of the tube.

Replacement Parts

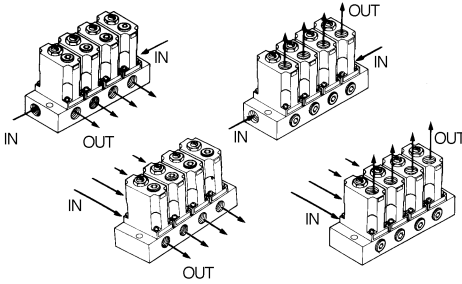
No.	Part	Material	Part Number
❷	Piston	Brass/NBR	13434
❸	Washer	Stainless/NBR	P233014-04
❹	Spring	Stainless	134313

Model	A	B	C	D	E	F	G	H	J	K
NARJ1020F-M5-04	.83 (21)	.41 (10.4)	.16 (4)	M5 x 0.8	.24 (6)	.42 (10.6)	.14 (3.5)	.61 (15.5)	1.97 (50)	.68 (17.2)
NARJ1020F-M5-06	.87 (22)	.50 (12.8)	.24 (6)		.24 (6)	.42 (10.6)	.14 (3.5)	.61 (15.5)	1.97 (50)	.68 (17.2)



Part No.	No. Stations	A	B
NARJM10-4	4	3.54 (90)	3.23 (82)
NARJM10-6	6	5.12 (130)	4.80 (122)
NARJM10-10	10	8.27 (210)	7.95 (202)

4 Ways of Connection

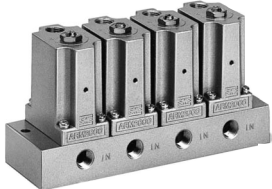


Small Size Pressure Gauge
ø15mm
Reverse flow function available on the standard model

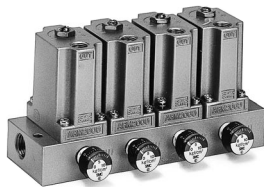
Space Saving



NARM1000-6A1-N01G

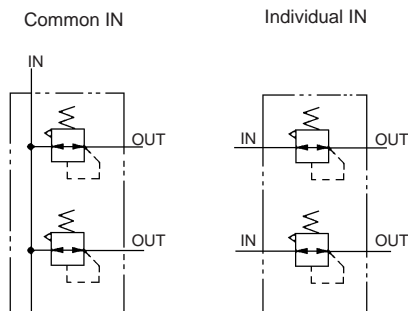


NARM2000-4B2



NARM2000-4A2-N01G

Symbol



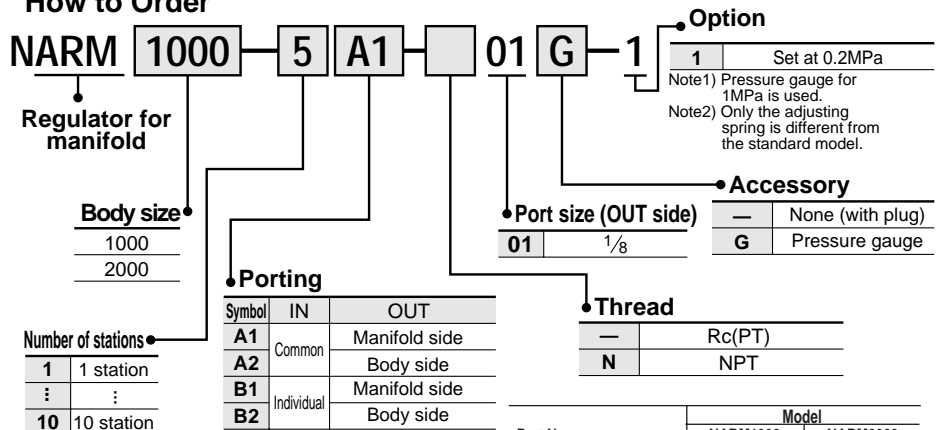
Standard Specifications

Fluid	Air
Proof pressure psig (MPa)	175 (1.2)
Max. operating pressure psig (MPa)	120 (0.8)
Set pressure range psig (MPa)	7~100 (0.05 to 0.7)
Ambient and fluid temperature	23°~140°F (-5 to 60°C) (No freezing)
Fluid	Air
Cracking pressure (Valve) psig (MPa)	3 (0.02)
Construction	Relief style

Port size/Weight

Model	Porting	Port size		Weight lb (g)	
		IN	OUT	Total weight (n: stations)	Regulator (Except manifold)
NARM1000	Common IN	1/8	1/8	(80 X n) + 23	.13 (57)
	Individual IN	1/8	1/8	(79 X n) + 25	
NARM2000	Common IN	1/4	1/8	(188 X n) + 43	.3 (136)
	Individual IN	1/8	1/8	(187 X n) + 45	

How to Order

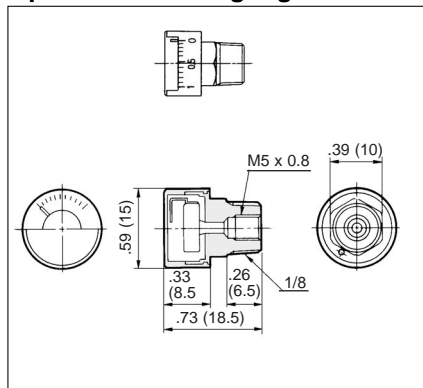


Note1) In case of A1 and B1, a pressure gauge or a plug is mounted at the body side, while in case of A2 and B2, at the manifold side.
Note2) Pressure gauges mounted in body are oriented so that the 6 o'clock position of the gauge is at the pressure adjusting screw.

Part Name	Model	
	NARM1000	NARM2000
Regulator w/o mflid	NARM1000A	NARM2000A
Pressure gauge	G15-P10-N01	G15-P10-N01
Blanking plate kit (plate, screws, and o-ring)	136114A	136214A
Manifold base, Common IN (A1, A2)	13612*-N	13622*-N
Manifold base, Individual IN (B1, B2)	13613*-N	13623*-N

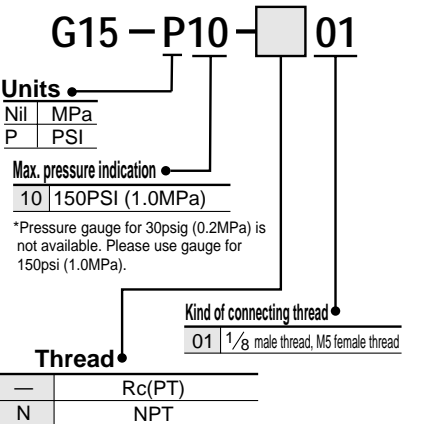
* Denotes number of stations: 2-10 available.

Option: Pressure gauge G15-10-01



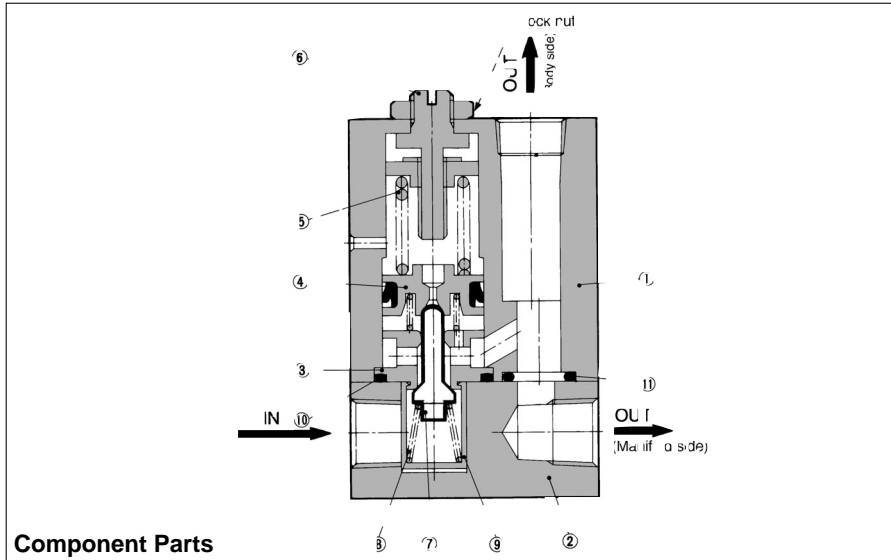
•Precautions:

How to Order



Regulator for Manifold
NARM1000, 2000

Construction (Individual IN)



Component Parts

No.	Description	Material	Note
①	Body	ADC	Chromate
②	Manifold	Aluminum alloy	Chromate
③	Valve guide	Brass	
④	Piston	Brass	
⑤	Adjusting spring	Steel wire	Zinc chromate
⑥	Adjusting screw	Steel	Electroless nickel plating

Replacement Parts

No.	Description	Material	Part no.	
			NARM1000	NARM2000
⑦	Valve	Brass/NBR	134819	13626
⑧	Valve spring	Stainless steel	13615	13625
⑨	Valve retainer	POM	13614	13624
⑩	O-ring	NBR	16.5 x 13.5 x 1.5	23 x 20 x 1.5
⑪	O-ring	NBR	P7	P8

Setting

- Make sure to check the primary pressure before setting the secondary pressure. Turning the pressure adjustment handle clockwise increases the secondary pressure and turning it counterclockwise decreases the pressure. (To set the pressure, do so in the direction of pressure increase.)
- The secondary pressure must be set to 85% or less of the primary pressure.

⚠️ Precautions

Be sure to read before handling.
Refer to page 6 for Safety Instructions and precautions common to the products mentioned in this volume and refer to pages 7 and 8 for more detailed precautions of every series.

Mounting/Adjustment

⚠️ Warning

- In the case of the common IN type, supply pressure from the two IN ports from both ends. Failure to observe this procedure could lead to an excessive pressure drop.
- Set up the regulator while verifying the pressure that is indicated on the primary and the secondary pressure gauges. Turning the handle excessively could damage the internal parts.

⚠️ Caution

- Release the lock to adjust the pressure. After the adjustment, engage the lock. Failure to observe this procedure could damage the handle or cause the secondary pressure to fluctuate.

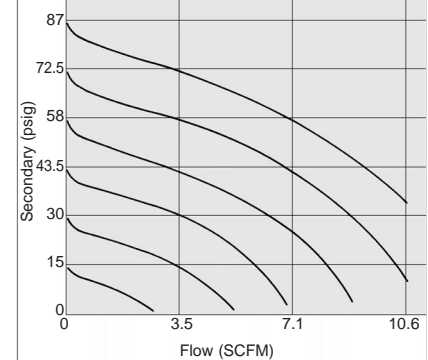
Maintenance

⚠️ Warning

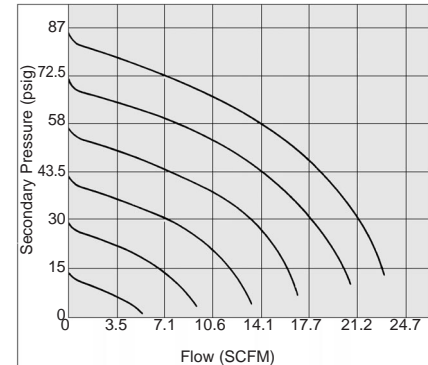
- Make sure to perform a periodic inspection of the pressure gauge when it is used by installing it between a solenoid valve and an actuator, etc. Because of the possibility of creating sudden pressure fluctuations, the durability of the product could be shortened. Under certain circumstances, the use of an electronic type pressure gauge is recommended.

Flow Characteristics

NARM1000 Supply pressure: 100 psig



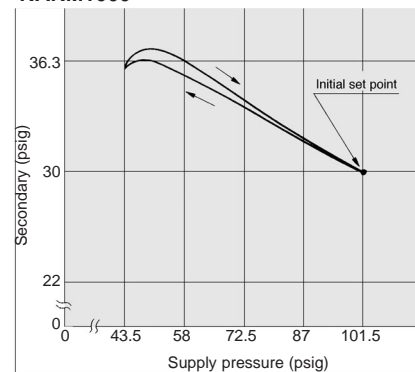
NARM2000



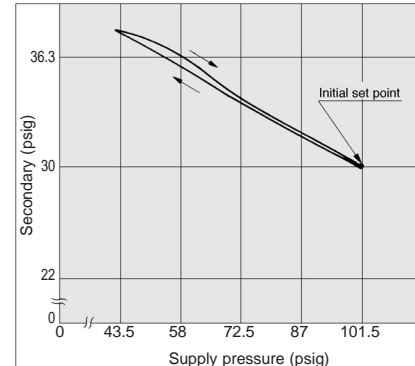
Pressure Characteristics

Initial setting Supply pressure: 0.7MPa(7.1kgf/cm²)
Secondary pressure: 0.2MPa(2.0kgf/c
Flow: .4 SCFM

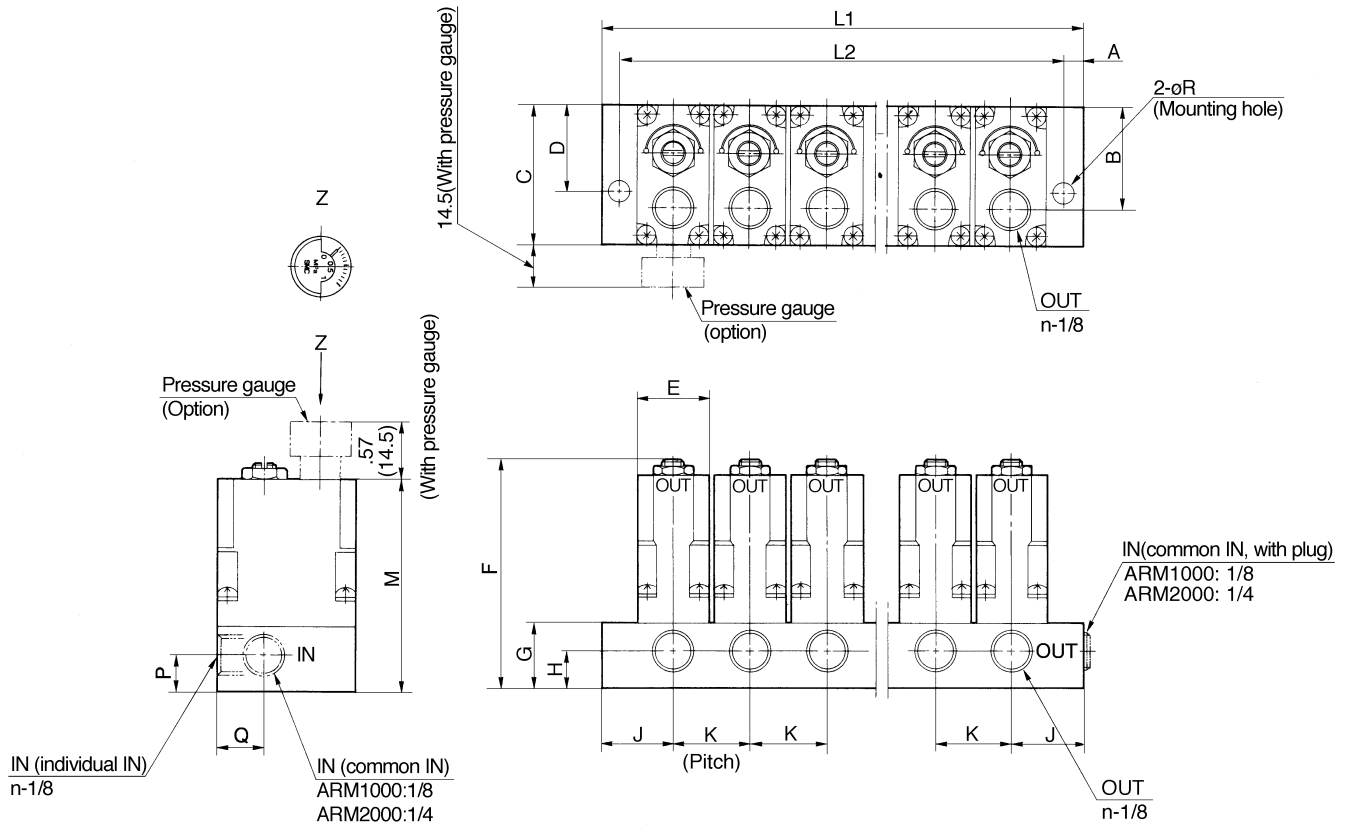
NARM1000



NARM2000



Dimensions



Dimensions

Model	Symbol	A	B	C	D	E	F	G	H	J	K	M	P	Q	R
NARM1000		.18	.98	1.34	.83	.71	2.20	.63	.35	.71	.75	2.05	.35	.45	.19
		(4.5)	(25)	(34)	(21)	(18)	(56)	(16)	(9)	(18)	(19)	(52)	(9)	(11.5)	(4.8)
NARM2000		.18	1.36	1.69	1.10	1.06	2.76	.79	.45	.94	1.10	2.60	.45	.65	.19
		(4.5)	(34.5)	(43)	(28)	(27)	(70)	(20)	(11.5)	(24)	(28)	(66)	(11.5)	(16.5)	(4.8)

Dimensions by number of stations

Model	Symbol	A	C	E	F	G	H	J	K	M	P
NARM1000	L1	1.42 (36)	2.17 (55)	2.91 (74)	3.66 (93)	4.41 (112)	5.16 (131)	5.91 (150)	6.65 (169)	7.40 (188)	8.15 (207)
	L2	1.06 (27)	1.81 (46)	2.56 (65)	3.31 (84)	4.06 (103)	4.80 (122)	5.55 (141)	6.30 (160)	7.05 (179)	7.80 (198)
NARM2000	L1	1.89 (48)	2.99 (76)	4.09 (104)	5.20 (132)	6.30 (160)	7.40 (188)	8.50 (216)	9.61 (244)	10.71 (272)	11.81 (300)
	L2	1.54 (39)	2.64 (67)	3.74 (95)	4.84 (123)	5.94 (151)	7.05 (179)	8.15 (207)	9.25 (235)	10.35 (263)	11.46 (291)

Regulator for Manifold
NARM2500, 3000

A modular type that can easily be mounted in a manifold station.

Optimal for central pressure control.

Pressure easily set using the new handle.
One-touch lock system.



NARM3000



NARM2500

How to Order

NARM **2500** **05** **A** **02** **G1**

Regulator for manifold

Body size

2500
3000

Number of stations

02	2 stations
⋮	⋮
10	10 stations

Accessory

—	None (with plug)
G1	K40A-MP1.0-N01M
G2	K40A-MP1.0-N01M

Port size (OUT side)

Symbol	Port size	Applicable model
02	NPT 1/4	NARM2500
03	NPT 3/8	NARM3000

Piping

Symbol	Type	IN
A	Common IN	From end plate
B	Individual IN	Below: OUT port or G port

Standard Specifications

Proof pressure psig (MPa)	220 (1.5)
Max. operating pressure psig (MPa)	150 (1.0)
Set pressure range psig (MPa)	7~120 (0.05 to 0.85)
Ambient and fluid temperature	23~140 (-5 to 60°C) (No freezing)
Fluid	Air
Construction	Relief type

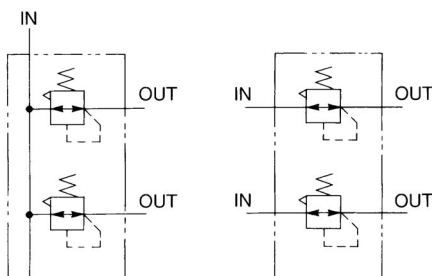
Port size/Weight

Model	Piping	Port size NPT			Pressure gauge port size NPT	Weight lb (kg)	
		IN		OUT		Regulator	End plate
		Body	End plate				
NARM2500	Common IN	—	3/8	1/4	1/8	.57 (0.26)	.13 (0.06)
	Individual IN	1/4	—	1/4	1/8		
NARM3000	Common IN	—	1/2	3/8	1/8	1.04 (0.47)	.24 (0.11)
	Individual IN	3/8	—	3/8	1/8		

Symbol

Common IN

Individual IN



Weight by number of stations

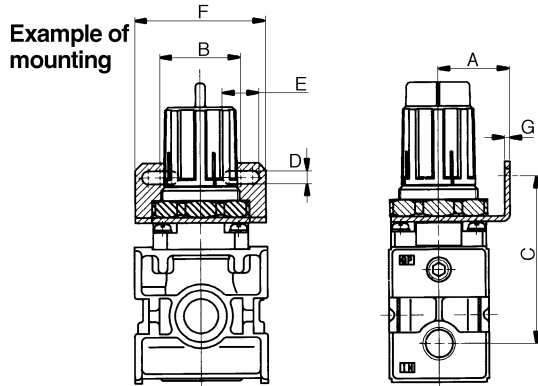
Model	Stations	lb (kg)								
		2	3	4	5	6	7	8	9	10
NARM2500		1.50 (0.68)	2.12 (0.96)	2.71 (1.23)	3.33 (1.51)	3.92 (1.78)	4.54 (2.06)	5.14 (2.33)	5.75 (2.61)	6.37 (2.89)
		2.67 (1.25)	3.86 (1.75)	4.96 (2.25)	6.06 (2.75)	7.19 (3.26)	8.29 (3.76)	9.39 (4.26)	10.49 (4.76)	11.6 (5.26)

Option: Mounting bolt ass'y

Model	Part no.	Dimensions	Qty.	Note
NARM2500	136313	Hexagon socket head cap screw (M5 x 70)	4	With flat washer
NARM3000	136413	Hexagon socket head cap screw (M6 x 85)	4	With flat washer

Option: Bracket assembly

Individual IN type can be used as a single regulator.



Model	Part no.	A	B	C	D	E	F	G
NARM2500	136314	1.18 (30)	1.34 (34)	2.76 (70)	.21 (5.4)	.61 (15.4)	2.17 (55)	.09 (2.3)
NARM3000	136414	1.61 (41)	1.57 (40)	2.97 (75.5)	.26 (6.5)	.31 (8)	2.09 (53)	.09 (2.3)

⚠️ Precautions

Be sure to read before handling.

Refer to page 6 for Safety Instructions and precautions common to the products mentioned in this volume and refer to pages 7 and 8 for more detailed precautions of every series.

Mounting/Adjustment

⚠️ Warning

- The adjustment handle must be operated manually. Using a tool to turn the handle could lead to damage.
- Set up the regulator while verifying the pressure that is indicated on the primary and the secondary pressure gauges. Turning the handle excessively could damage the internal parts.

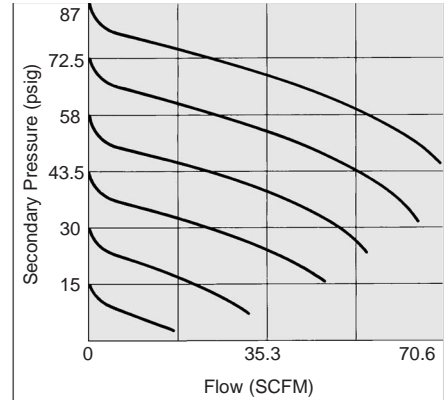
⚠️ Caution

- Release the lock to adjust the pressure. After the adjustment, engage the lock. Failure to observe this procedure could damage the handle or cause the secondary pressure to fluctuate.
 - On the NARM2500, pull the adjustment handle to release the lock and push the adjustment handle to engage the lock. If it does not lock easily, turn the handle slightly clockwise or counterclockwise before pushing it.

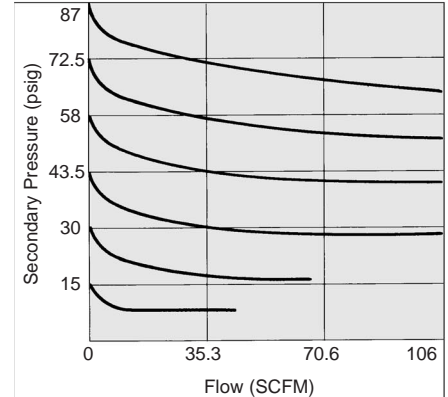
- On the NARM3000, pull the adjustment handle to release the lock. (An orange colored line is provided at the bottom of the adjustment handle for visual checking.) Push the adjustment handle to engage the lock. If it does not lock easily, turn the handle slightly clockwise or counterclockwise; then, push it until the orange colored line is no longer visible.
- Turning the pressure adjustment handle clockwise increases the secondary pressure and turning it counterclockwise decreases the pressure.
- Make sure to check the primary pressure before setting the pressure. The secondary pressure must be set to 85% or less of the primary pressure. Failure to observe this procedure could cause the secondary pressure to fluctuate.
- In the case of the common IN type, supply pressure from the two IN ports from both ends. Failure to observe this procedure could lead to an excessive pressure drop.

Flow Characteristics Supply pressure: 100 psig

NARM2500



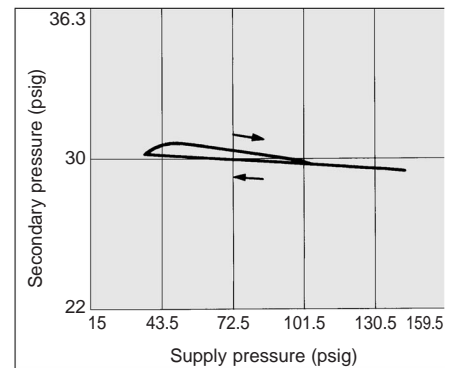
NARM3000



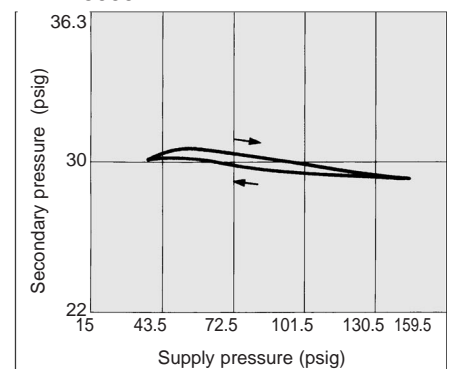
Supply pressure 100 psig
Secondary pressure 30 psig
Flow rate .7 SCFM

Pressure Characteristics

NARM2500

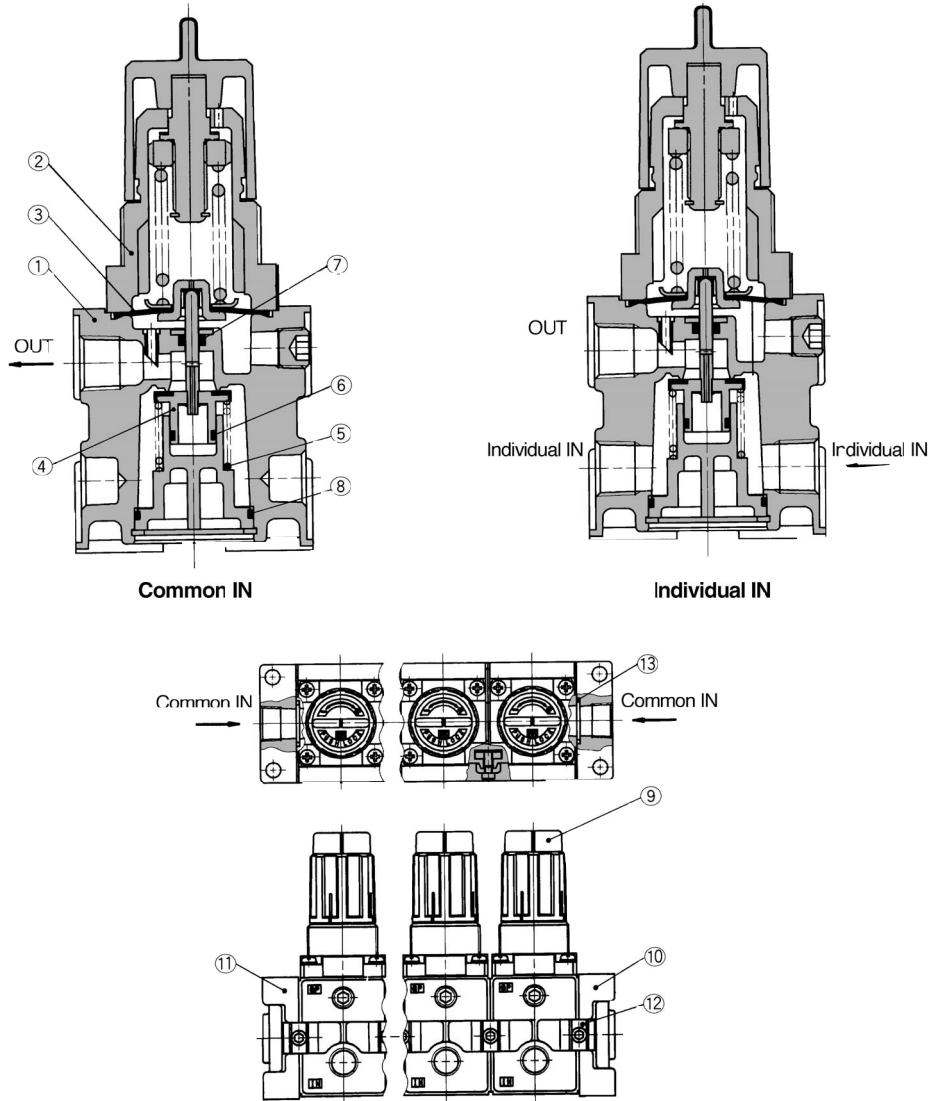


NARM3000



Regulator for Manifold
NARM2500, 3000

Construction



Main Parts

No.	Description	Material	Note
①	Body	Aluminum die casting	Chromate/Platinum silver painting
②	Bonnet	Polyacetal	

Component Parts

No.	Description	Material	Part no.	
			NARM2500	NARM3000
③	Diaphragm ass'y	NBR	1349161A	131515A
④	Valve ass'y	Brass/NBR	13639A	13649A
⑤	Valve spring	Stainless steel	136310	136410
⑥	Valve O-ring	NBR	11.5 X 8.5 X 1.5	14.5 X 10.5 X 2
⑦	O-ring	NBR	P3	P5
⑧	O-ring	NBR	28 X 25 X 1.5	35 X 31 X 2

Component Parts

Description	No.	Assembly		Part no.				
		Component	Qty.	NARM2500		NARM3000		
				Common IN	Individual IN	Common IN	Individual IN	
Regulator	⑨	Regulator	1	NARM2500-A-N02	NARM2500-B-N02	NARM3000-A-N03	NARM3000-B-N03	
End plate ass'y	⑩	End plate R	1	13636A	13636B (Except for O-ring)	13646A	13646B (Except for O-ring)	
	⑪	End plate L	1					
	⑫	O-ring	1					
	⑬	Bracket	Bracket A					2
Bracket B			2					
Hexagon socket head cap screw			2					
Bracket ass'y	⑭	O-ring	1	136312		136412		
	⑮	Bracket	Bracket A					2
			Bracket B					2
			Hexagon socket head cap screw					2

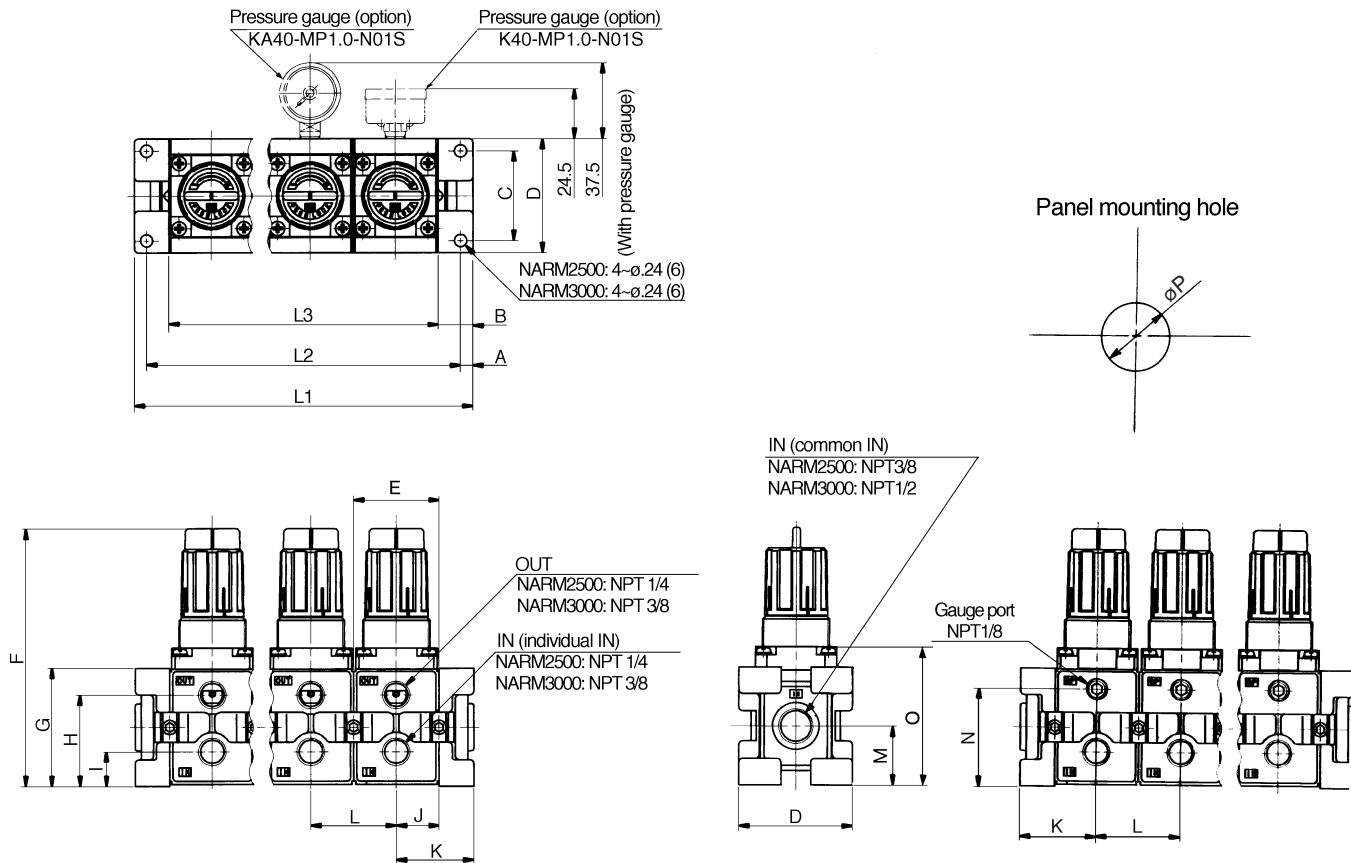
How to Order

(1) When adding n stations to ARM $\frac{2500}{3000} * * A, B$

- Regulator n pcs.
- Bracket ass'y n pcs.

(2) When ordering regulators, end plate assembly and bracket assembly are assembled to make the manifold of n stations.

- Regulator n pcs.
- Bracket ass'y n pcs.
- End plate ass'y 1 pc.



Dimensions

Model	Symbol	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
NARM2500		.24	.67	1.73	2.20	1.65	4.98	2.28	1.77	.67	.83	1.50	1.65	1.14	1.89	2.68	1.32
		(6)	(17)	(44)	(56)	(42)	(126.5)	(58)	(45)	(17)	(21)	(38)	(42)	(29)	(48)	(68)	(33.5)
NARM3000		.28	.83	2.13	2.68	2.17	6.04	2.76	2.09	.93	1.08	1.91	2.17	1.38	2.32	3.37	1.67
		(7)	(21)	(54)	(968)	(55)	(153.5)	(70)	(53)	(23.5)	(27.5)	(48.5)	(55)	(35)	(59)	(85.5)	(42.5)

Dimensions by number of stations

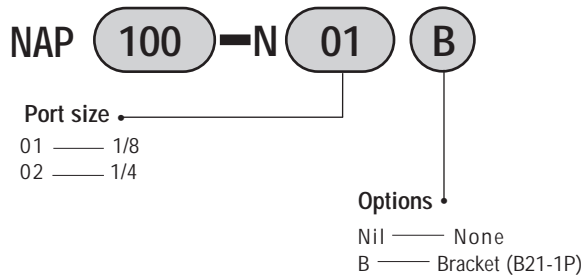
Model	Symbol	2	3	4	5	6	7	8	9	10
NARM2500	L1	4.66 (118)	6.30 (160)	7.95 (202)	9.61 (244)	11.26 (286)	12.91 (328)	14.57 (370)	16.22 (412)	17.87 (454)
	L2	4.17 (106)	5.83 (148)	7.48 (190)	9.13 (232)	10.79 (274)	12.44 (316)	14.09 (358)	15.75 (400)	17.40 (442)
	L3	3.31 (84)	4.96 (126)	6.61 (168)	8.27 (210)	9.92 (252)	11.57 (294)	13.23 (336)	14.88 (378)	16.54 (420)
NARM3000	L1	5.98 (152)	8.15 (207)	10.31 (262)	12.48 (317)	14.65 (372)	16.81 (427)	18.98 (482)	21.14 (537)	23.31 (592)
	L2	5.43 (138)	7.60 (193)	9.76 (248)	11.93 (303)	14.10 (358)	16.26 (413)	18.43 (468)	20.59 (523)	22.76 (578)
	L3	4.33 (110)	6.50 (165)	8.66 (220)	10.83 (275)	12.99 (330)	15.16 (385)	17.32 (440)	19.49 (495)	21.65 (550)



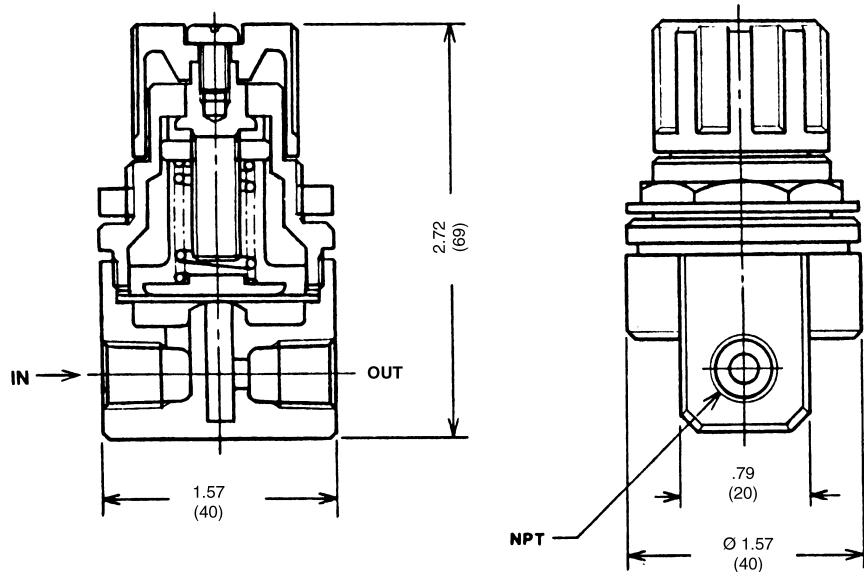
Specifications

Proof Pressure psig (MPa)	220 (1.5)
Max. Operating Pressure psig (MPa)	150 (1.0)
Relieving Range psig (MPa)	7~120 (0.05 ~0.7)
Temperature Range	23~140° F (-5° ~ 60° C)
Port Size	1/8 NPT - 0.56 Cv 1/4 NPT - 0.78 Cv
Weight lb (kg)	.38 (.17)
Body	ADC

How To Order



Dimensions





Specifications

Max. Supply Pressure psig (MPa)	220 (1.5)
Max. Operating Pressure psig (MPa)	150 (1.0)
Regulating Pressure Range psig (MPa)	7~100 (0.05 ~ 0.7)
Temperature Range	23~140°F (-5~60°C)
Port Size: X243	1/8 & 1/4
Port Size: X247	1/8, 1/4 & 1/4 Gauge Port
Weight lbs (kg)	.32 (.10)
Body	ADC

How To Order

NAR111 - N **01** **B** - **1** - **X247**

Port size
01 — 1/8
02 — 1/4

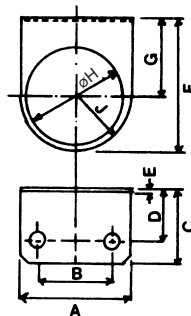
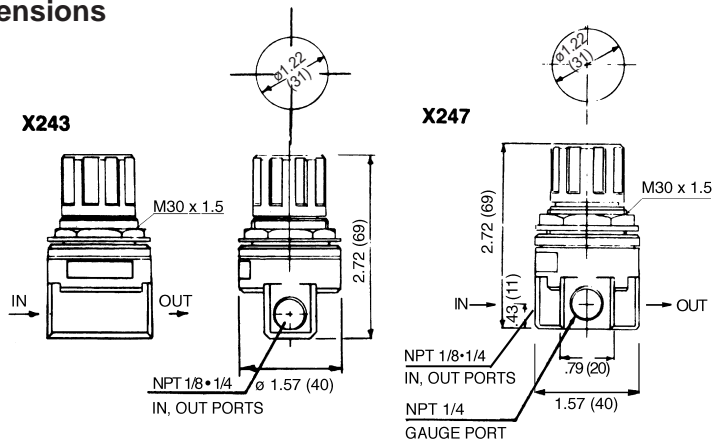
Accessory
Nil — None
B — Bracket (B21-1P)
G — Pressure Gauge

Options

Nil — None
1* — 3-30 psig (0.02-0.2MPa) setting
4* — 3-60 psig (0.02-0.4MPa) setting
*not a maximum setting. Option 1 is more precise in the range of 3-30 psig. Option 4 is more precise in the range of 3-60 psig.

Port Configuration
X243 — 2 port
X247 — 3 port

Dimensions

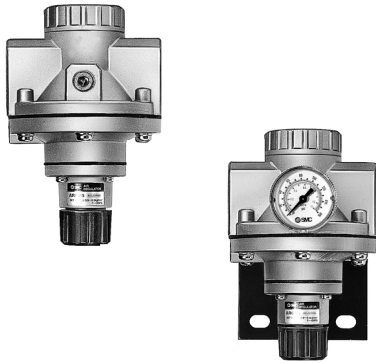


Gauges

Part No.	PSI Range
K50A-MP1.0-N02M	0-160
K50A-MP0.2-N02M	0-30
K50A-MP0.4-N02M	0-60
K50A-MP0.7-N02M	0-100

All above gauges are psig and MPa units

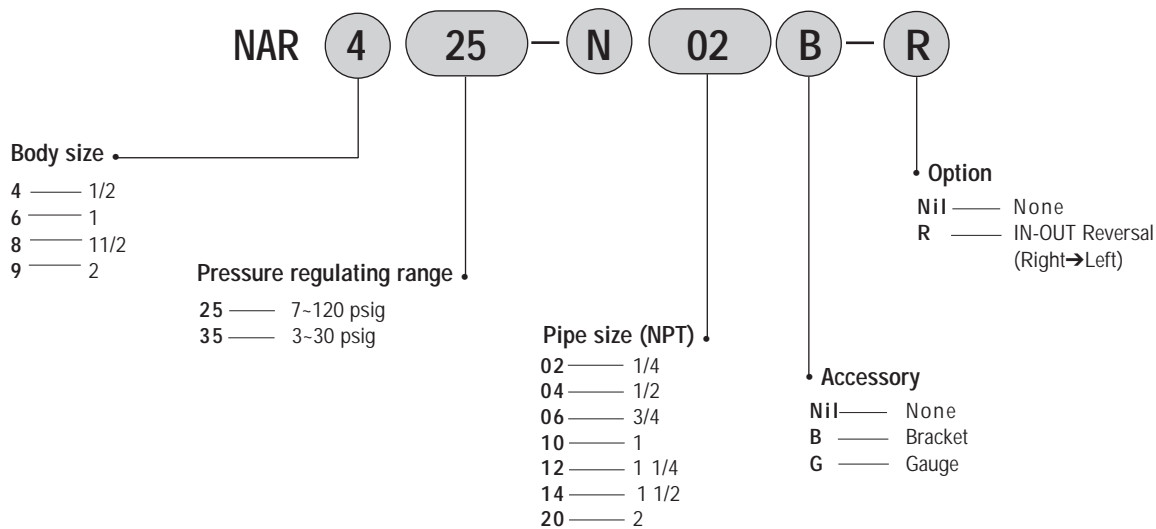
A	B	C	D	E	F	G	H	J
1.69	1.10	1.10	0.79	0.06	2.0	1.18	1.22	0.83
(43)	(28)	(28)	(20)	(1.6)	(51)	(30)	(31)	(21)



Specifications

Model	NAR425	NAR435	NAR625	NAR635	NAR825	NAR835	NAR925	NAR935	
Port Size	1/4 • 3/8 • 1/2		3/4 • 1		1 1/4 • 1 1/2		2		
Proof pressure psig (MPa)	220 (1.5)								
Max. operating pressure psig (MPa)	150 (1.0)								
Temperature	23~140° F (-5° ~ 60° C)								
Pressure regulating range psig (MPa)	7-120 (0.05~0.83)	3-30 (0.02~0.2)	7-120 (0.05~0.83)	3-30 (0.02~0.2)	7-120 (0.05~0.83)	3-30 (0.02~0.2)	7-120 (0.05~0.83)	3-30 (0.02~0.2)	
Body	ADC, AC2A-F	ADC, AC2A-F	ADC, AC2A-F	ADC, AC2A-F	AC2A-F	AC2A-F	AC2A-F	AC2A-F	
Bonnet	ADC								
Chamber	ADC, AC2A-F	ADC, AC2A-F	ADC, AC2A-F	ADC, AC2A-F	AC2A-F	AC2A-F	AC2A-F	AC2A-F	
Valve guide	ZDC, AC2A-F	ZDC, AC2A-F	ZDC, AC2A-F	ZDC, AC2A-F	AC2A-F	AC2A-F	AC2A-F	AC2A-F	
Weight lbs (kgf)	1.54 (0.7)		2.43 (1.1)		5.51 (2.5)		9.92 (4.5)		
Option	Bracket	B24P		B25P		—		—	
	Gauge	K50A-MP1.0-N02M (0~160 psig) Std. NAR O 25							
		K50A-MP2.0-N02M (0~30 psig) Std. NAR O 35							

How To Order



Flow and Pressure Characteristics

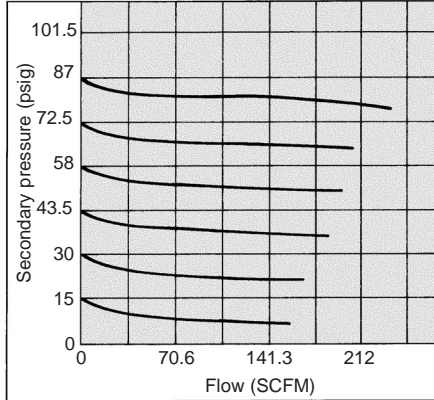
NAR425, 435, 625, 635, 825, 835, 925, 935

Flow characteristics Condition: Supply pressure 100 psig

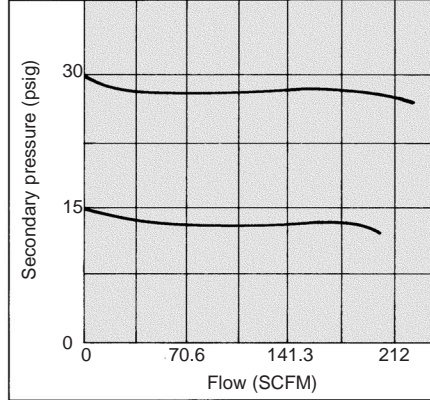
Pressure characteristics

Supply Pressure - 100 psi (0.7 MPa)
 Secondary Pressure - 30 psi (0.2 MPa)
 Flow - 0.7SCFM (20l/min)

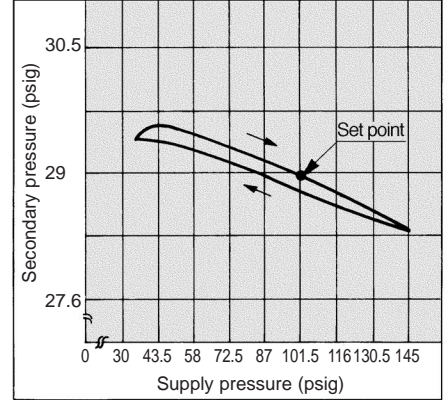
NAR425 NPT 1/2



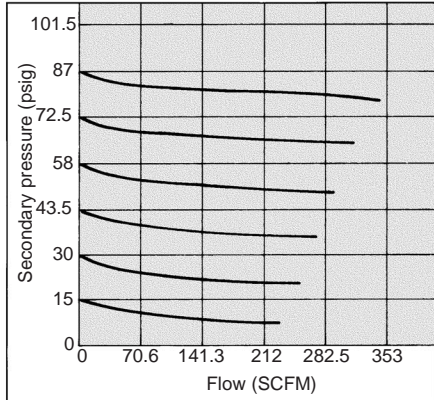
NAR435 NPT 1/2



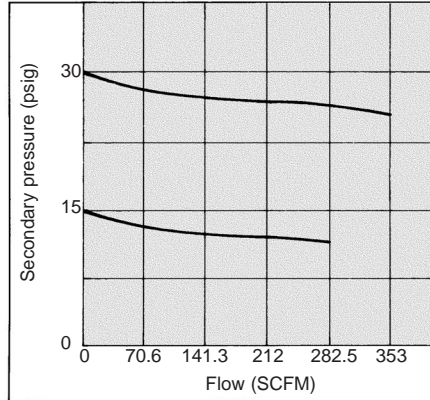
NAR425/435 NPT 1/2



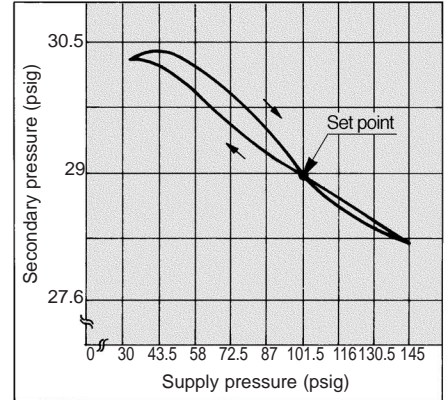
NAR625 NPT 1



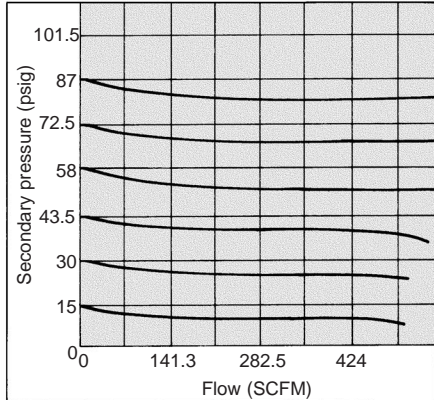
NAR635 NPT 1



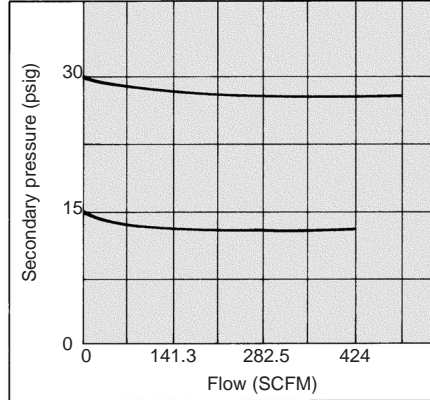
NAR625/635 NPT 1



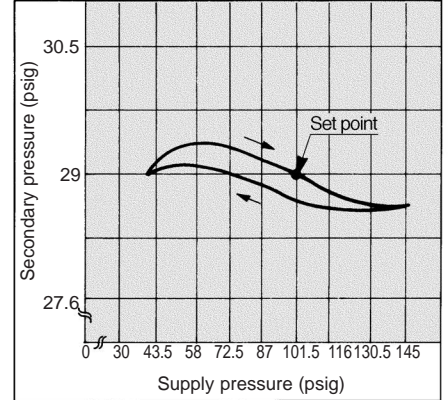
NAR825 NPT 1/2



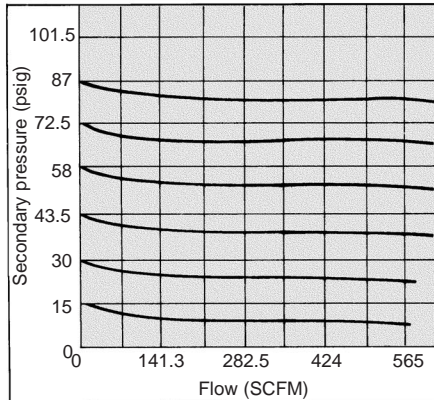
NAR835 NPT 1/2



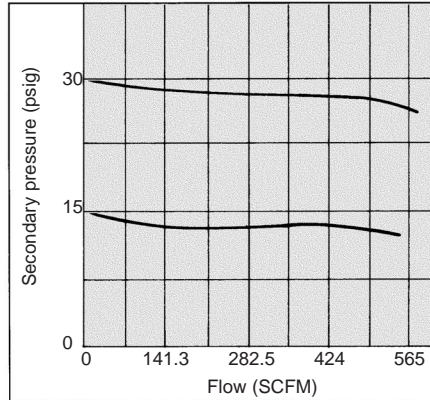
NAR825/835 NPT 1/2



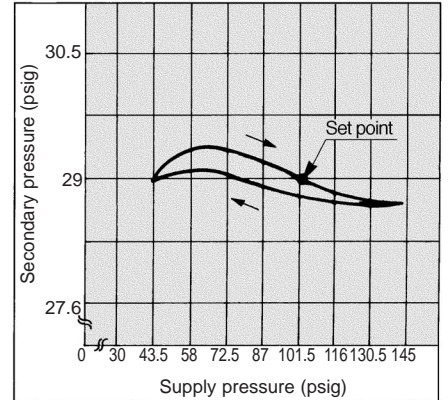
NAR925 NPT 2



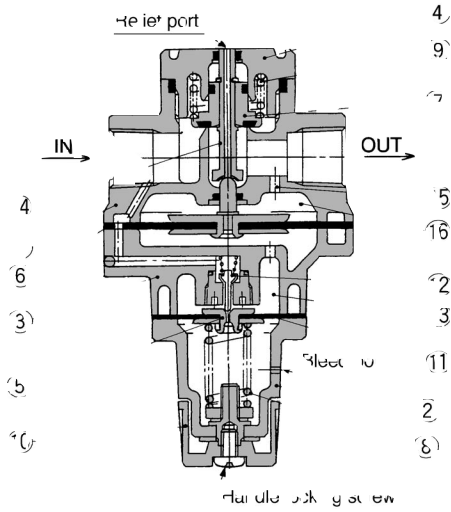
NAR935 NPT 2



NAR925/935 NPT 2

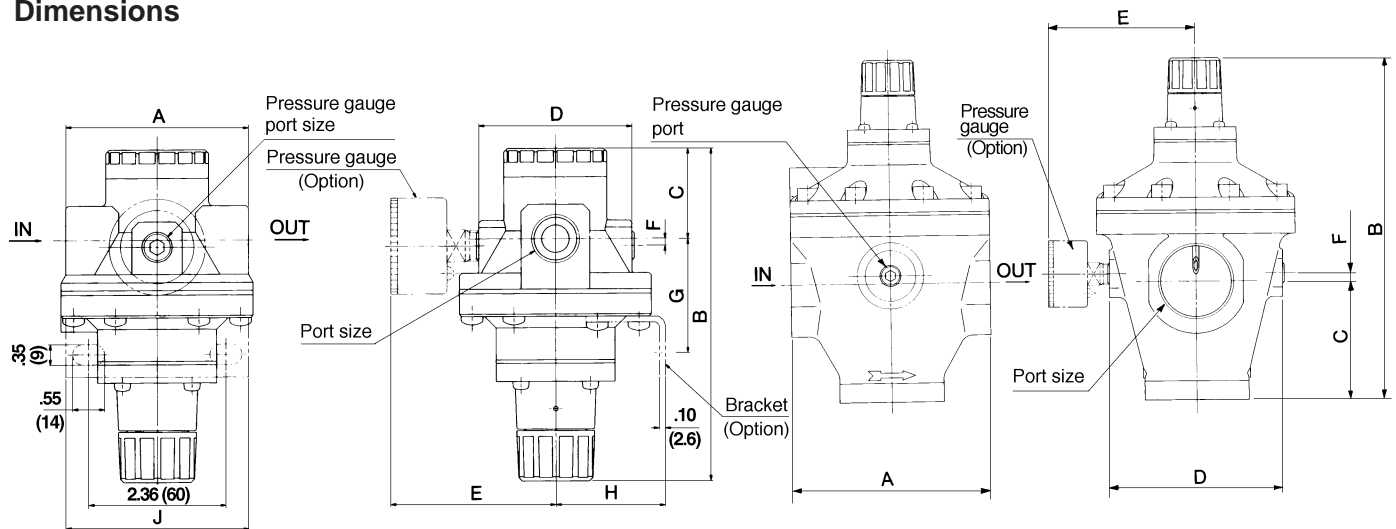


Construction



No.	Name	Material	Model			
			NAR425•435	NAR625•635	NAR825•835	NAR925•935
⑤	Exhaust valve assembly	—	132586A	132586A	132586A	132586A
⑥	Main valve diaphragm assembly	—	132581A	132659A	13275A	13285A
⑦	Valve assembly	—	132572A	132653A	132752A	132829A
⑧	Regulating spring	SWPB	135053(NAR425) 135025(NAR435)	135053(NAR625) 135025(NAR635)	135053(NAR825) 135025(NAR835)	135053(NAR925) 135025(NAR935)
⑨	Valve spring	SUS304	135211	132656	132713	13289
⑪	Pilot Diaphragm	—	135019-1A	135019-1A	135019-1A	135019-1A
	Repair Kit	—	KT-AR4□5	KT-AR6□5	KT-AR8□5	KT-AR9□5

Dimensions



Model	A	B	C	D	E	F	Bracket Dimensions		
							G	H	J
NAR425•435	3.15 (80)	5.55 (141)	1.46 (37)	2.64 (67)	3.01 (76.5)	0.12 (3)	1.83 (46.5)	1.89 (48)	3.15 (80)
NAR625•635	3.86 (98)	5.98 (151.9)	1.57 (40)	3.07 (78)	3.23 (82)	0.28 (7)	3.35 (85)	2.05 (52)	3.54 (90)
NAR825•835	4.96 (126)	8.54 (216.9)	2.95 (75)	4.33 (110)	3.86 (98)	0.20 (5)	—	—	—
NAR925•935	6.30 (160)	9.53 (242)	3.50 (89)	5.51 (140)	4.45 (113)	0.39 (10)	—	—	—

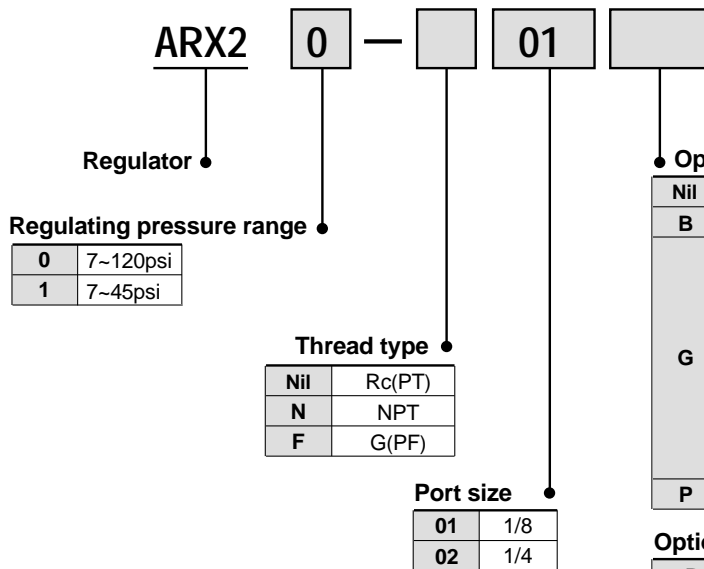
Regulator for 290psi (2MPa)
ARX20, 21



Specifications

Model	ARX20	
Regulator construction	Piston regulator	
Relief mechanism	Relief type	
Piping port size	NPT 1/8, 1/4	
Pressure gauge port size	NPT 1/8, 1/4	
Proof pressure psig (MPa)	435 (3.0)	
Maximum operating pressure psig (MPa)	290 (2.0)	
Regulating pressure range psig (MPa)	Standard	7~120 (0.05 to 0.85)
	Low pressure	7~45 (0.05 to 0.3)
Fluid	Air	
Ambient and fluid temperature	23~140°F (– 5 to 60°C) (with no freezing)	
Weight lbs (Kgf)	.24 (0.11)	

How to Order



Options

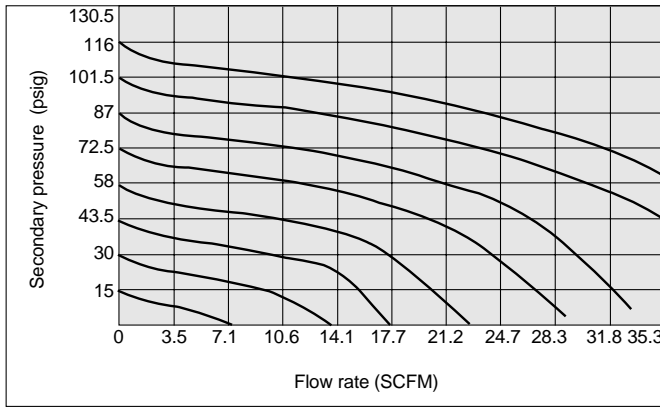
Nil	None		
B	Bracket	1348112	
G	Pressure gauge	ARX20- Nil <input type="checkbox"/> F <input type="checkbox"/>	K40A-MP1.0-01M K50A-MP1.0-02M
		ARX21- Nil <input type="checkbox"/> F <input type="checkbox"/>	K40A-MP0.4-01M K50A-MP0.4-02M
		ARX20-N <input type="checkbox"/>	K40A-MP1.0-N01M K50A-MP1.0-N02M
		ARX21-N <input type="checkbox"/>	K40A-MP0.4-N01M K50A-MP0.4-N02M
P	Panel nut	1348110A	

Option combination numbers

B	BG	* Panel nut is also included with B.
G	GP	
P		

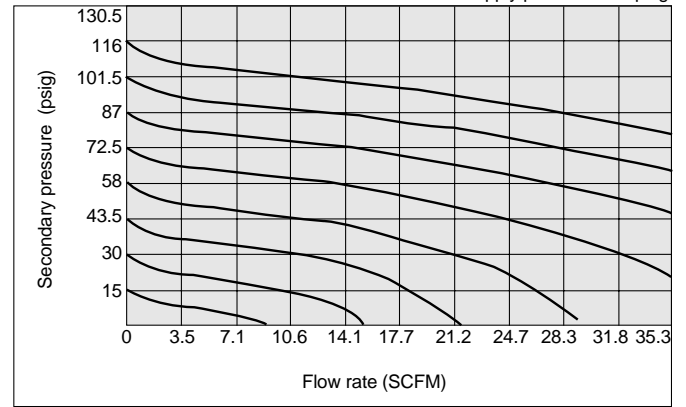
Flow Characteristics

ARX20-N01

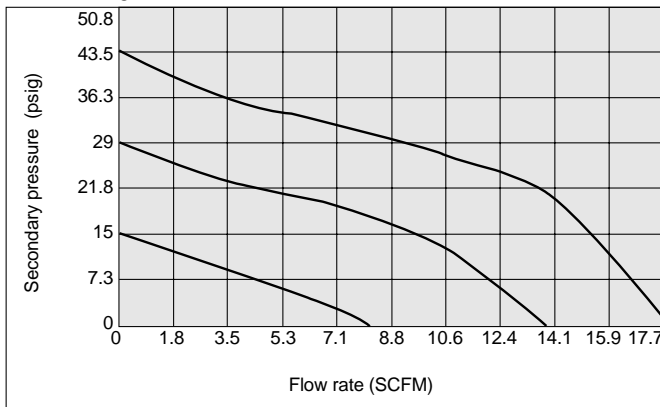


ARX20-N02

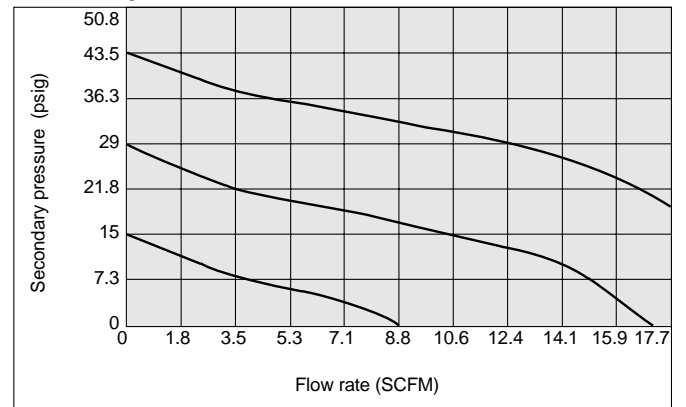
Conditions: Supply pressure 290 psig



ARX21-N01



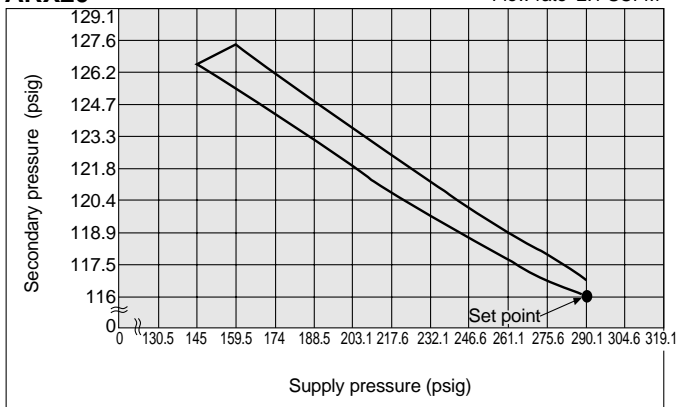
ARX21-N02



Pressure Characteristics

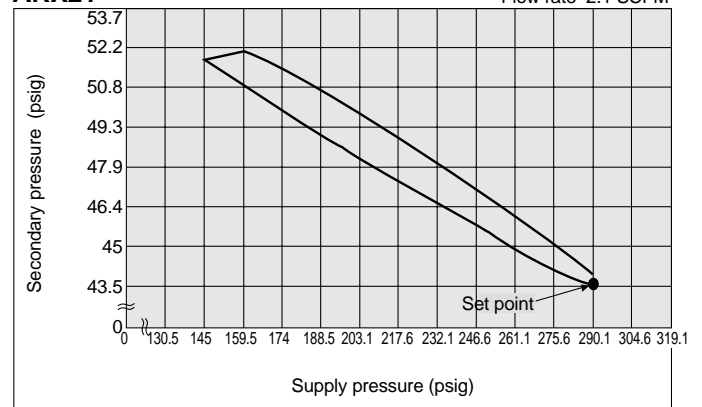
Conditions: Supply pressure 290 psig
Secondary pressure 116 psig
Flow rate 2.1 SCFM

ARX20

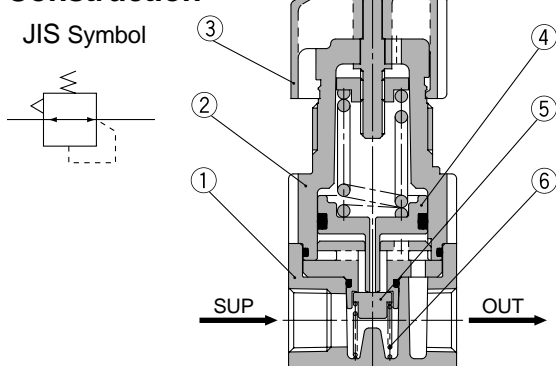


Conditions: Supply pressure 290 psig
Secondary pressure 116 psig
Flow rate 2.1 SCFM

ARX21



Construction



Parts list

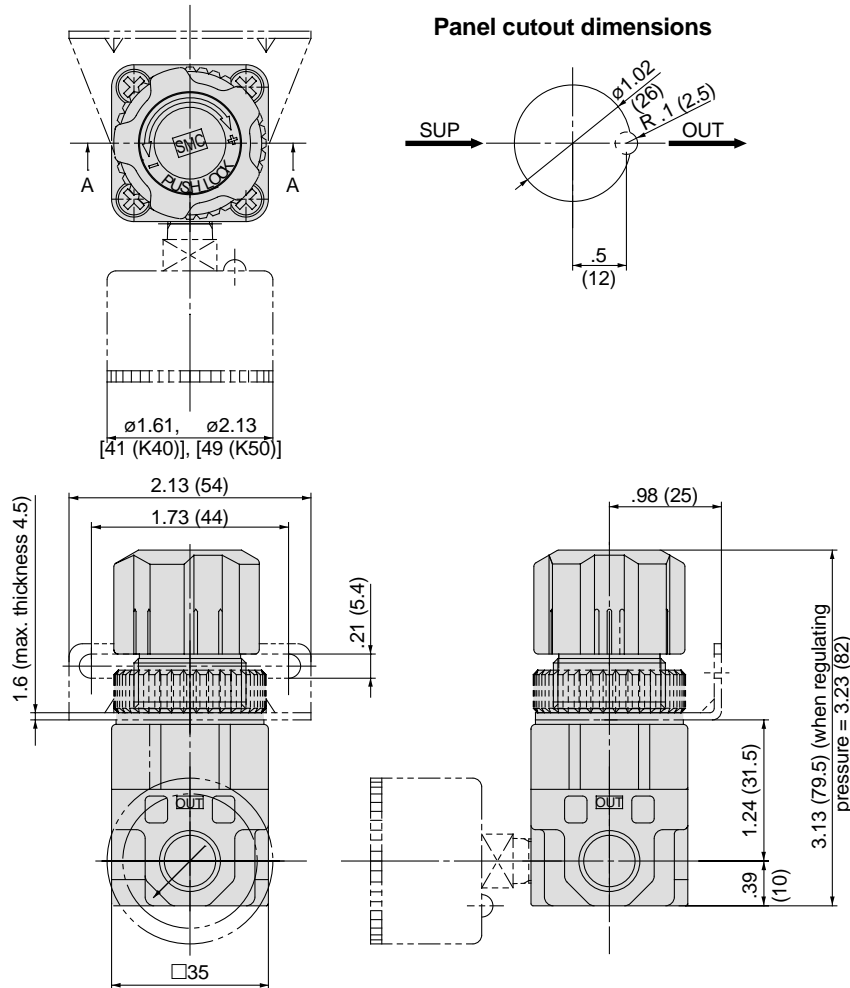
No.	Description	Material	Note
1	Body	ADC	
2	Bonnet	POM	
3	Handle	POM	

Replacement parts list

No.	Description	Material	Part No.
4	Piston assembly	POM/NBR	1348104A
5	Valve	Brass/NBR	1348105
6	Valve spring	Stainless steel	1348109

Regulator for 290 psi (2 MPa)
ARX20, 21

Dimensions



Options

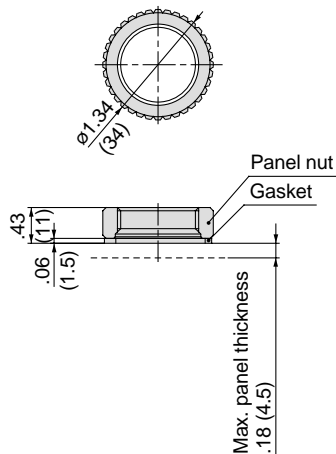
Panel nut

Part No.	1348110A
Material	POM, NBR (gasket)

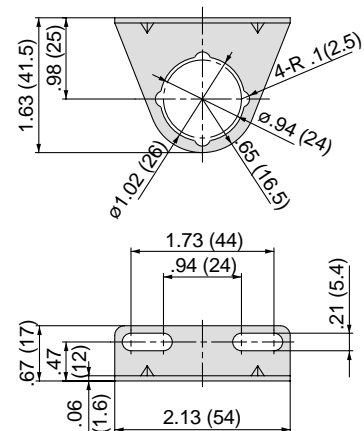
Bracket

Part No.	1348112
Material	SPCC (black zinc chromated)

Dimensions

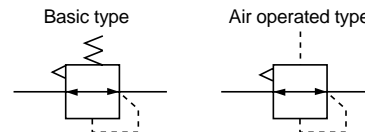


Dimensions



* Install the gasket underneath the panel or bracket (bonnet side).
Tighten the panel nut by hand without the use of tools.

JIS symbol



Standard Specifications

Model	Basic type			Air operated type	
	IR10□0	IR20□0	IR30□0	IR2120	IR3120
Max. supply pressure	Maximum 1.0MPa (145psi)				
Min. supply pressure	Set pressure + 0.05MPa (7psi) <small>Note 1)</small>		Set pressure+0.1MPa (14psi)	Set pressure+0.05MPa (7psi)	Set pressure+0.1MPa (14psi)
Regulating pressure range	IR1000: 0.005 to 0.2MPa (0.7 to 29psi) IR1010: 0.005 to 0.4MPa (0.7 to 58psi) IR1020: 0.005 to 0.8MPa (0.7 to 116psi)	IR2000: 0.005 to 0.2MPa (0.7 to 29psi) IR2010: 0.005 to 0.4MPa (0.7 to 58psi) IR2020: 0.005 to 0.8MPa (0.7 to 116psi)	IR3000: 0.01 to 0.2MPa (1 to 29psi) IR3010: 0.01 to 0.4MPa (1 to 58psi) IR3020: 0.01 to 0.8MPa (1 to 116psi)	0.005 to 0.8MPa (0.7 to 116psi)	0.01 to 0.8MPa (1 to 116psi)
<small>Note 2)</small> Input signal pressure	—			0.005 to 0.8MPa (0.7 to 116psi)	0.01 to 0.8MPa (1 to 116psi)
Sensitivity	Within 0.2% of full span				
Repeatability	Within ± 0.5% of full span				
Linearity <small>Note 3)</small>	—			Within ±1% of full span	
<small>Note 4)</small> Air consumption	5 /min (ANR) or less (supply pressure: 1.0MPa)	4 /min (ANR) or less (supply pressure: 1.0MPa) 3 /min (ANR) or less (supply pressure: 0.7MPa)	Bleed port: 9.5 /min (ANR) or less (supply pressure: 1.0MPa) Exhaust port: 2 /min (ANR) or less (at maximum set pressure)	4 /min (ANR) or less (supply pressure: 1.0MPa) 3 /min (ANR) or less (supply pressure: 0.7MPa)	Bleed port: 9.5 /min (ANR) or less (supply pressure: 1.0MPa) Exhaust port: 2 /min (ANR) or less (at maximum set pressure)
Port size	1/8	1/4	1/4, 3/8, 1/2	1/4	1/4, 3/8, 1/2
Pressure gauge port	1/8 (2 locations)				
Ambient and fluid temperature	- 5 to 60°C (23 to 140°F) (with no freezing)				
Weight kg (lb)	0.14 (0.31)	0.30 (0.66)	0.64 (1.41)	0.35 (0.77)	0.71 (1.56)

Note 1) With the condition of no flow on the output side. Together with the set pressure, be sure to maintain a minimum differential pressure of 0.05MPa for models IR1000 and IR2000, and 0.1MPa for model IR3000.

Note 2) Applicable only to air operated types IR2120 and IR3120. The basic type is excepted.

Note 3) Indicates the linearity of the output pressure with respect to the input signal pressure.

Note 4) Air is normally being discharged to the atmosphere.

How to Order

NIR 2000 0-□02□-R

- Body size**

1	IR1000
2	IR2000
3	IR3000
- Precision regulator**
- Type of setting**

0	Basic type (handle)
1	Air operated type (series IR2000/3000 only)
- Regulating pressure range**

For series IR1000/2000

0	0.005 to 0.2MPa (0.7 to 29psi)
1	0.005 to 0.4MPa (0.7 to 58psi)
2	0.005 to 0.8MPa (0.7 to 116psi)

Note) The air operated type is model IR2120 only.

For series IR3000

0	0.01 to 0.2MPa (1 to 29psi)
1	0.01 to 0.4MPa (1 to 58psi)
2	0.01 to 0.8MPa (1 to 116psi)

Note) The air operated type is model IR3120 only.
- Pressure gauge mounting**

R Note) Pressure gauge mounted on reverse side

Note) The standard mounting position of the pressure gauge is on the front, when viewing the regulator with the SUP side to the left and the OUT side to the right.
- Accessories**

Nil	None
B	With bracket
G	With pressure gauge
- Port size**

Symbol	Size	Application		
		IR1000	IR2000	IR3000
01	1/8	●		
02	1/4		●	●
03	3/8			●
04	1/2			●
- Thread type**

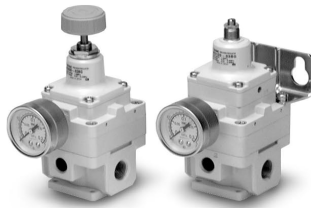
Nil	Rc(PT)
N*	NPT
F*	G(PF)

* Order made

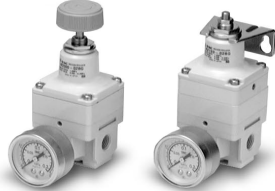
Precision Regulator
IR1000, 2000, 3000

Specification Combinations

●: Standard specifications ○: Combination possible Blank: Combination not possible



Series IR3000



Series IR2000



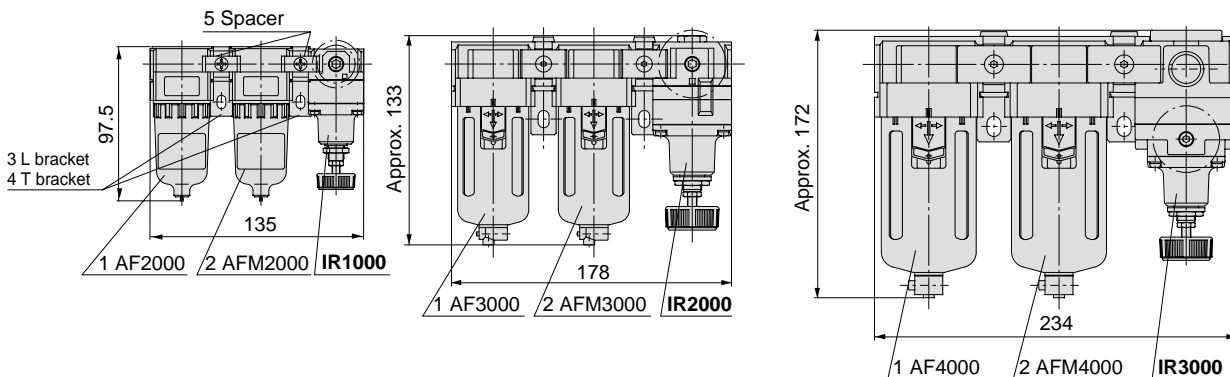
Series IR1000

Specifications		Symbol	Applicable model				
			IR1000 IR1010 IR1020	IR2000 IR2010 IR2020	IR2120	IR3000 IR3010 IR3020	IR3120
Standard specifications	Set pressure max. 0.2MPa	0	●	●		●	
	Set pressure max. 0.4MPa	1	●	●		●	
	Set pressure max. 0.8MPa	2	●	●	●	●	●
	Connection Rc(PT) 1/8	01	●				
	Connection Rc(PT) 1/4	02		●	●	●	●
	Connection Rc(PT) 3/8	03				●	●
	Connection Rc(PT) 1/2	04				●	●
Accessories	Bracket	B	○	○	○	○	○
	Pressure gauge	G	○	○	○	○	○
Order made specifications	Pressure gauge reverse mounted	R	○	○	○	○	○
	Connection NPT1/8	N01	○				
	Connection NPT1/4	N02		○	○	○	○
	Connection NPT3/8	N03				○	○
	Connection NPT1/2	N04				○	○
	Connection G(PF) 1/8	F01	○				
	Connection G(PF) 1/4	F02		○	○	○	○
	Connection G(PF) 3/8	F03				○	○
Connection G(PF) 1/2	F04				○	○	

Modular Products and Accessory Combinations

Description	Applicable model		
	IR10□0	IR20□0 / IR2120	IR30□0 / IR3120
1 Air filter	AF2000	AF3000	AF4000
2 Mist separator	AFM2000	AFM3000	AFM4000
3 L bracket	B210L	B310L	B410L
4 T bracket	B210T	B310T	B410T
5 Spacer	Y20	Y30	Y40
6 Spacer with L bracket (3 + 5)	Y20L	Y30L	Y40L
7 Spacer with T bracket (4 + 5)	Y20T	Y30T	Y40T

<Combination example>



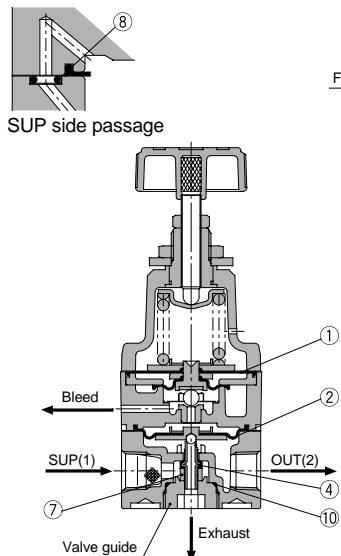
Accessories (Optional)/Part Nos.

Description	Part No.								
	IR1000	IR1010	IR1020	IR2000	IR2010	IR2020 / 2120	IR3000	IR3010	IR3020 / 3120
Bracket	P36201023			P36202028			P36203018		
Pressure gauge*	G33-2-01	G33-4-01	G33-10-01	G43-2-01	G43-4-01	G43-10-01	G43-2-01	G43-4-01	G43-10-01

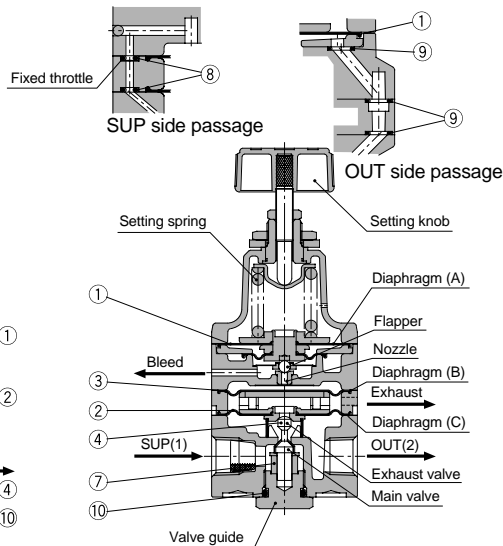
* Accuracy ±3% (full span)

Construction

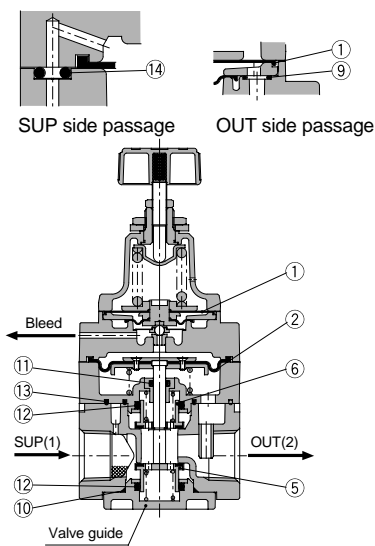
IR1000



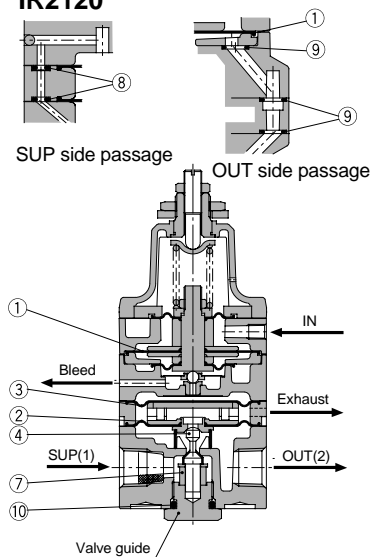
IR2000



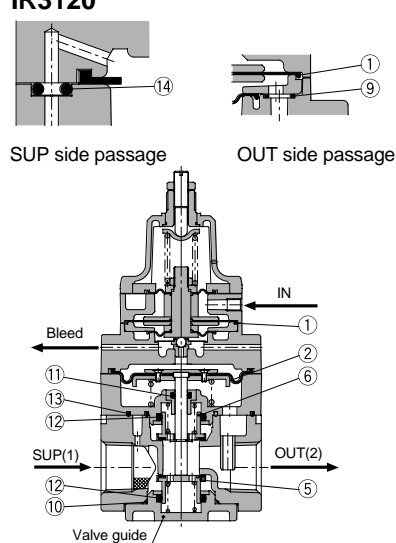
IR3000



IR2120



IR3120



Operating Principle (for IR2000)

When the setting knob is turned, the nozzle is closed by the flapper allowing the supply air that flows in from the upstream side to pass through the fixed throttle and to act on diaphragm B as nozzle back pressure, the main valve is pushed down by the generated force and the supply pressure flows out to the downstream side. The air pressure that flows in acts on diaphragm C and while opposing the force generated by diaphragm B it also acts on diaphragm A opposing the compression force of the setting spring and becomes the set pressure. If the set pressure rises too high, diaphragm A is pushed up, the interval between the flapper and the nozzle widens, the nozzle back pressure drops, the balance of diaphragms B and C is broken, the main valve closes, the exhaust valve opens and the excess pressure from the downstream side is discharged to the atmosphere. In this way fine pressure variations are detected by the nozzle/flapper type pilot mechanism, and precise pressure adjustment is performed.

Replacement parts

No.	Description	Material	Part No.				
			IR10□0	IR20□0	IR30□0	IR2120	IR3120
1	Diaphragm assembly	NBR, other	P362010-1	P362020-2	P362020-2	P362020-13	P362020-13
2	Diaphragm assembly	NBR, other	P362010-2	P362020-5	P362030-1	P362020-5	P362030-1
3	Diaphragm	NBR, other	—	P36202019	—	P36202019	—
4	Valve	Stainless steel, NBR	P36201020 (-1) Note 1)	P36202025	—	P36202025	—
5	Valve	Brass, NBR	—	—	P36203009	—	P36202009
6	Valve	Brass, NBR	—	—	P36203010	—	P36203010
7	Damper	NBR	P36201021	P36202026	—	P36202026	—
8	O-ring	NBR	ø2.5 x 1	ø2 x 1.25	—	ø2 x 1.25	—
9	O-ring	NBR	—	ø4.5 x 1	ø4.5 x 1	ø4.5 x 1	ø4.5 x 1
10	O-ring	NBR	ø10 x 1.3	JISB2401 P11	ø27.8 x 1.5	JISB2401 P11	ø27.8 x 1.5
11	O-ring	NBR	—	—	JISB2401 P5 Note 2)	—	JISB2401 P5 Note 2)
12	O-ring	NBR	—	—	JISB2401 P16 Note 2)	—	JISB2401 P16 Note 2)
13	Seal (A)	NBR	—	—	P36203015	—	P36203015
14	Seal (B)	NBR	—	—	P36203016	—	P36203016
Service parts kit no. (set of above items 1 through 14)			KT-IR1000 Note 3) KT-IR1010	KT-IR2000	KT-IR3000	KT-IR2120	KT-IR3120

Note 1) IR1000 uses P36201020-1 and IR1010/1020 use P36201020.

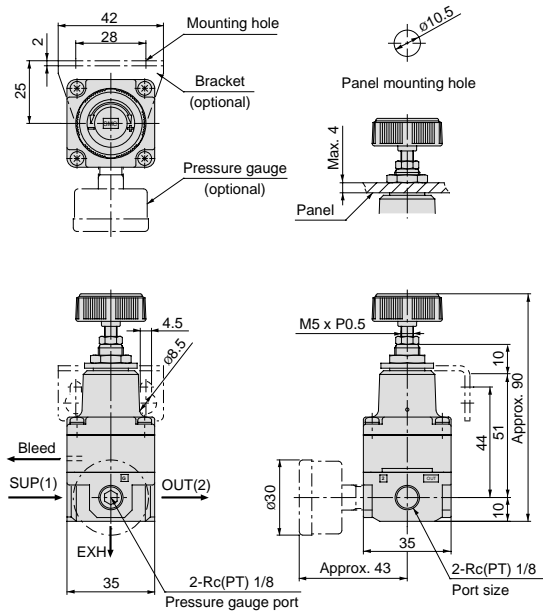
Note 2) Use mini-flick type.

Note 3) IR1000 uses KT-IR1000 and IR1010/1020 use KT-IR1010.

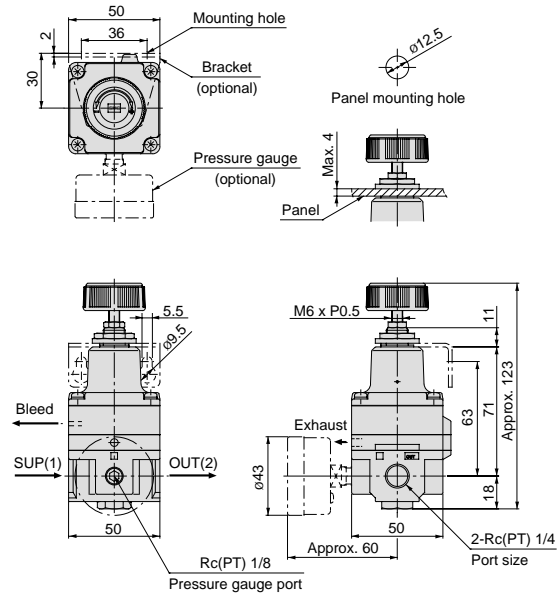
Dimensions (mm)

1 in = 25.4mm

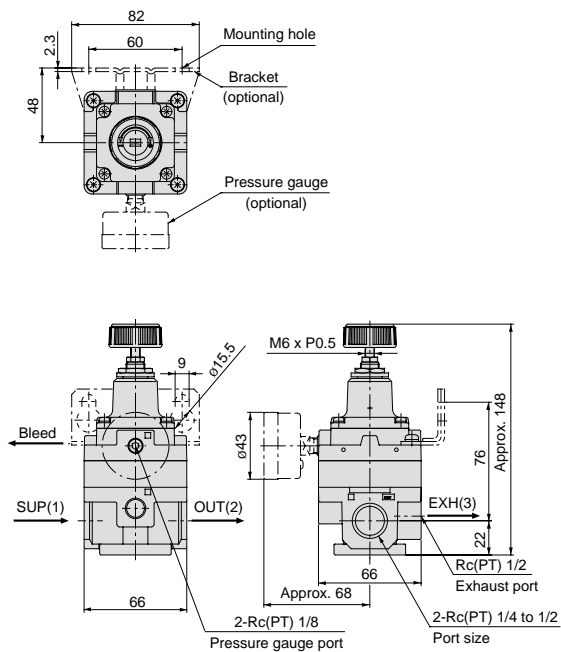
IR10□0-01□



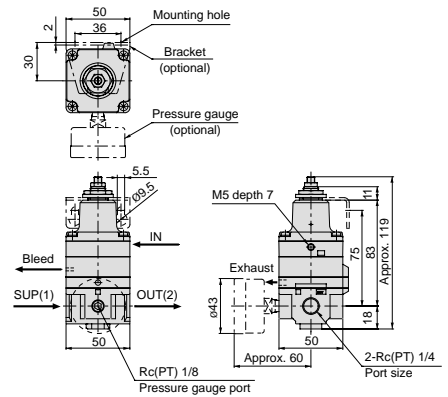
IR20□0-02□



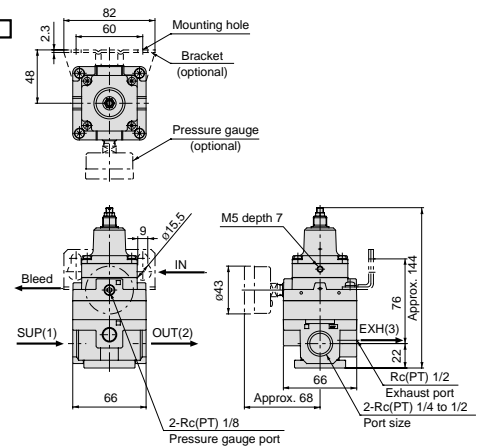
IR30□0-0□□



IR2120-02□



IR3120-0□□



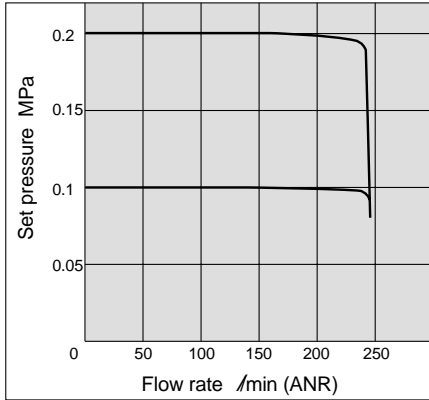
Series IR1000

1MPa = 145psi

Flow rate characteristics

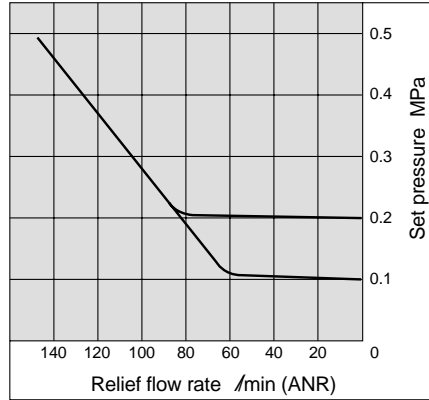
* Testing methods conform to JIS B8372.

IR1000-01 Conditions: Supply pressure 0.5MPa



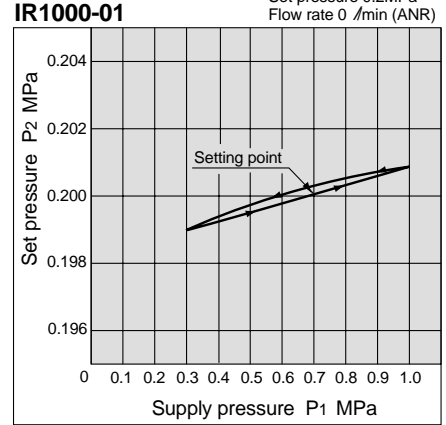
Relief characteristics

IR1000-01 Conditions: Back pressure 0.5MPa

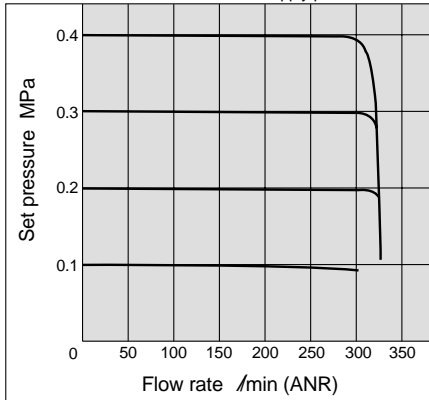


Pressure characteristics

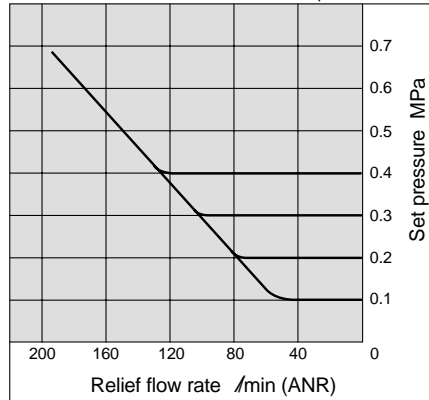
Conditions: Supply pressure 0.7MPa
Set pressure 0.2MPa
Flow rate 0 l/min (ANR)



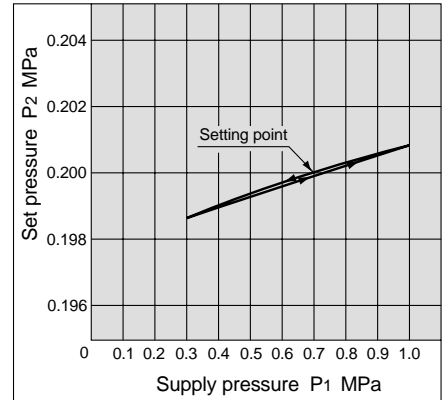
IR1010-01 Conditions: Supply pressure 0.7MPa



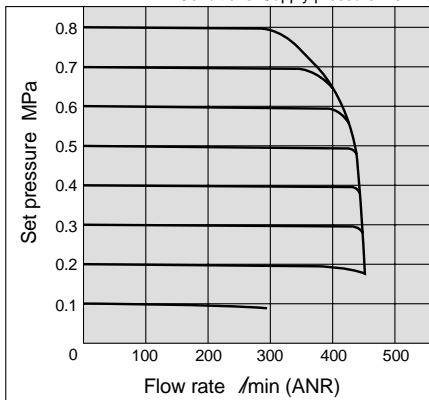
IR1010-01 Conditions: Back pressure 0.7MPa



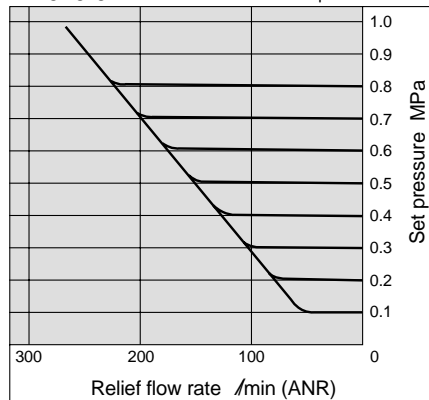
IR1010-01



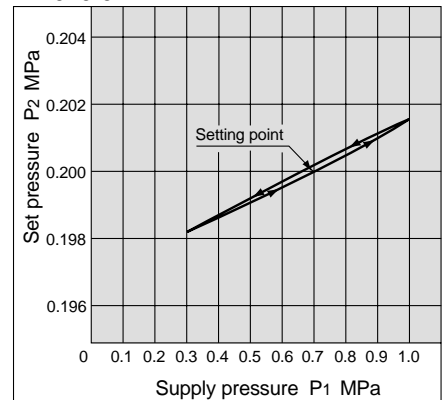
IR1020-01 Conditions: Supply pressure 1.0MPa



IR1020-01 Conditions: Back pressure 1.0MPa



IR1020-01



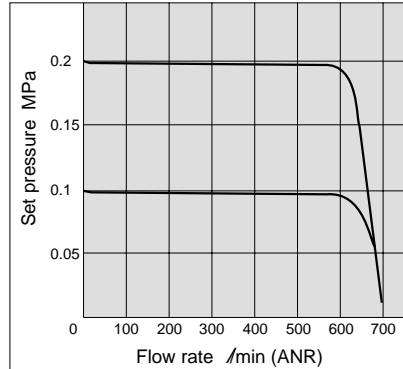
Series IR2000

1MPa = 145psi

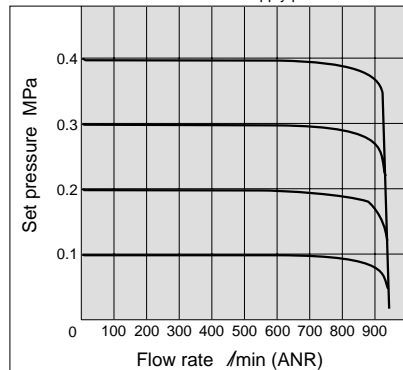
Flow rate characteristics

* Testing methods conform to JIS B8372.

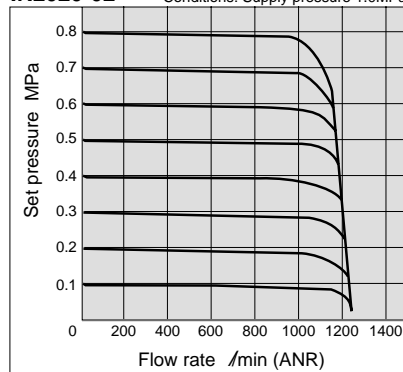
IR2000-02 Conditions: Supply pressure 0.5MPa



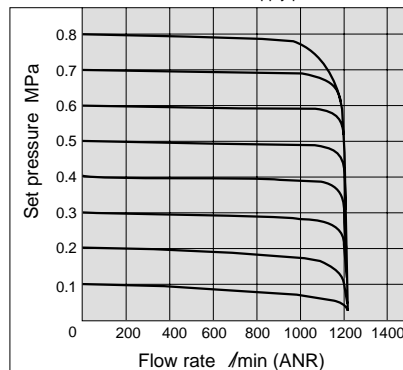
IR2010-02 Conditions: Supply pressure 0.7MPa



IR2020-02 Conditions: Supply pressure 1.0MPa

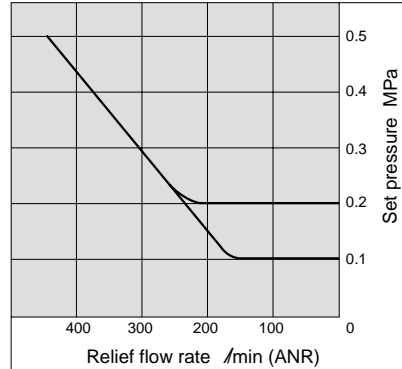


IR2120-02 Conditions: Supply pressure 1.0MPa

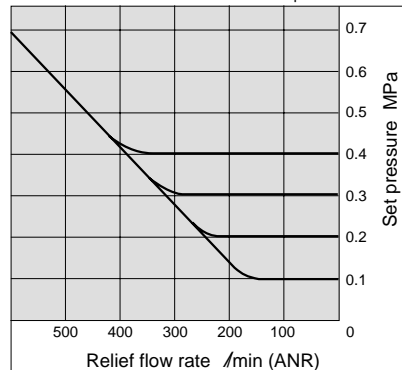


Relief characteristics

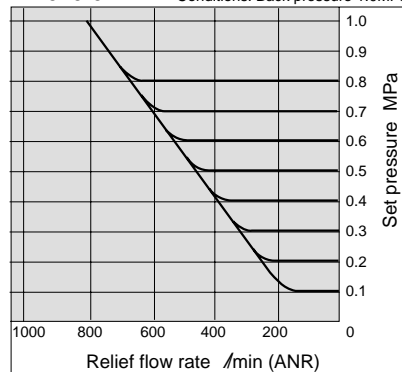
IR2000-02 Conditions: Back pressure 0.5MPa



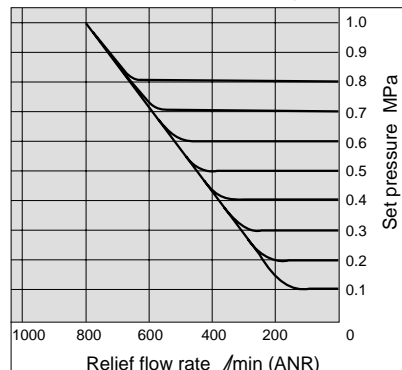
IR2010-02 Conditions: Back pressure 0.7MPa



IR2020-02 Conditions: Back pressure 1.0MPa

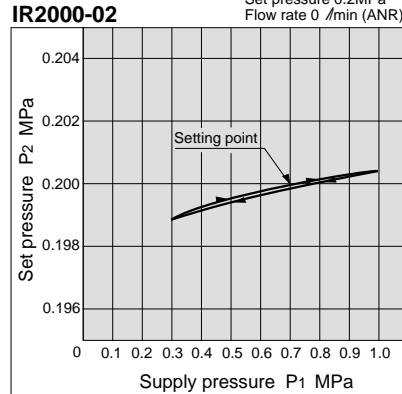


IR2120-02 Conditions: Back pressure 1.0MPa

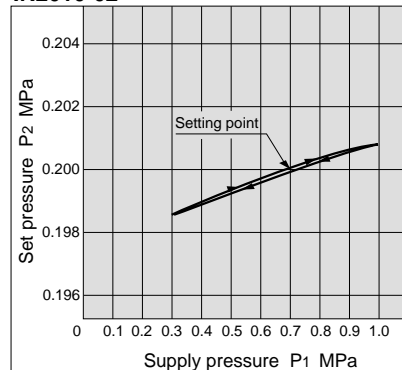


Pressure characteristics

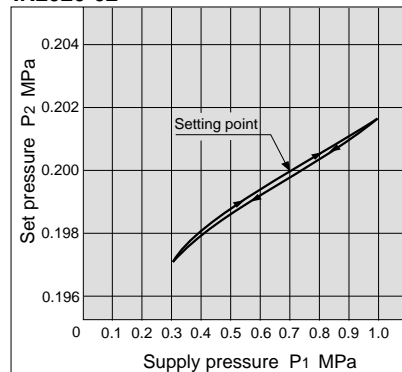
Conditions: Supply pressure 0.7MPa
Set pressure 0.2MPa
Flow rate 0 l/min (ANR)



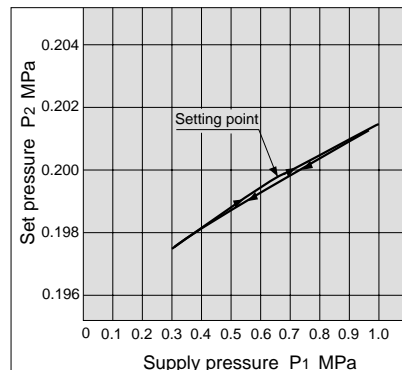
IR2010-02



IR2020-02



IR2120-02



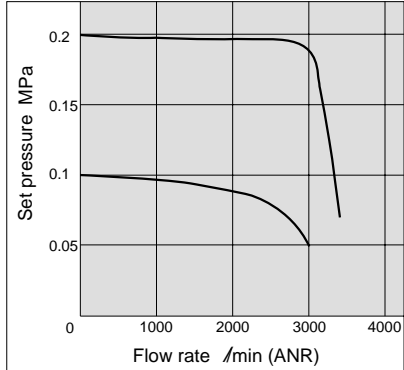
Series IR3000

1MPa = 145psi

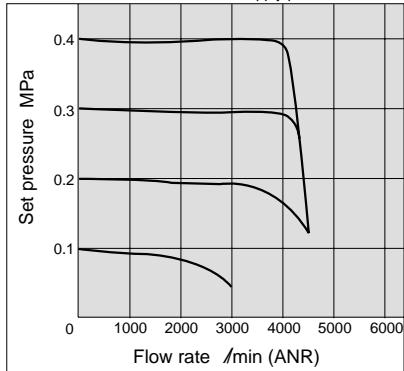
Flow rate characteristics

* Testing methods conform to JIS B8372.

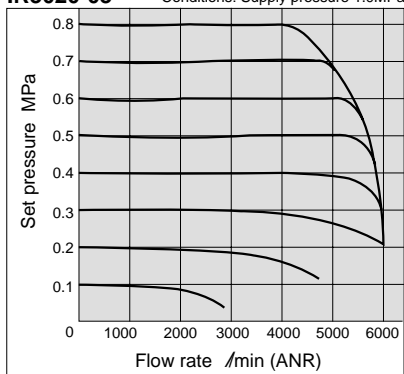
IR3000-03 Conditions: Supply pressure 0.5MPa



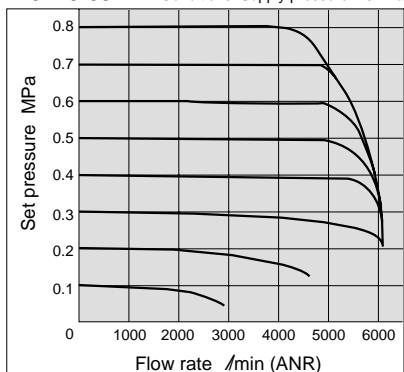
IR3010-03 Conditions: Supply pressure 0.7MPa



IR3020-03 Conditions: Supply pressure 1.0MPa

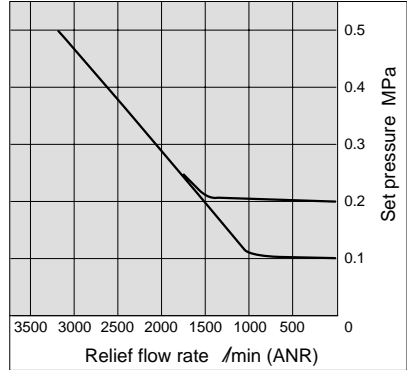


IR3120-03 Conditions: Supply pressure 1.0MPa

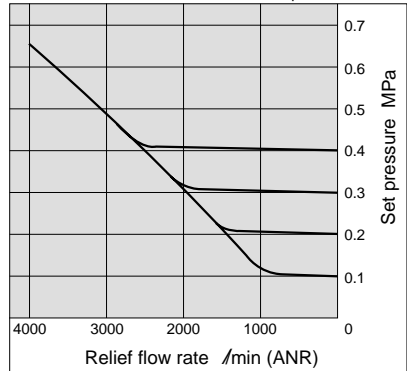


Relief characteristics

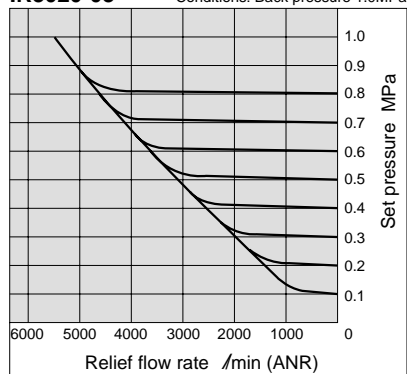
IR3000-03 Conditions: Back pressure 0.5MPa



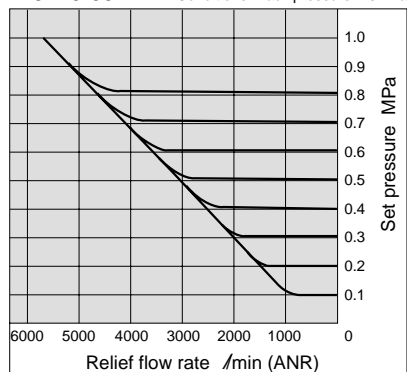
IR3010-03 Conditions: Back pressure 0.7MPa



IR3020-03 Conditions: Back pressure 1.0MPa

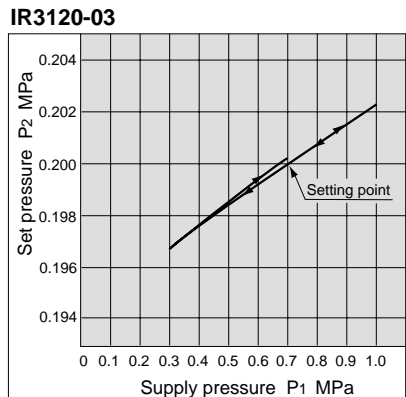
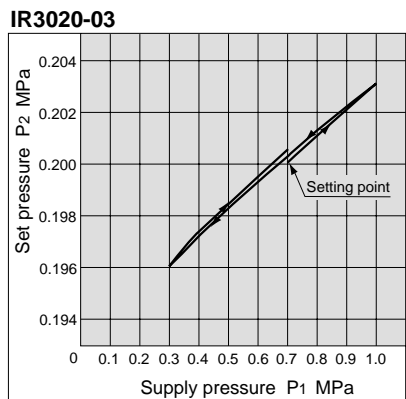
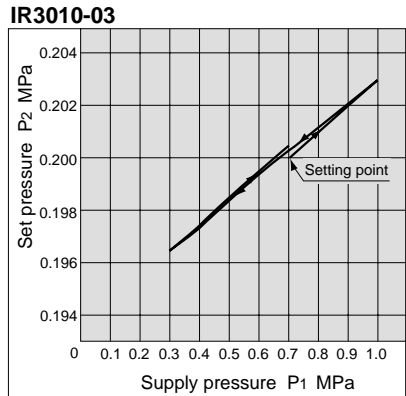
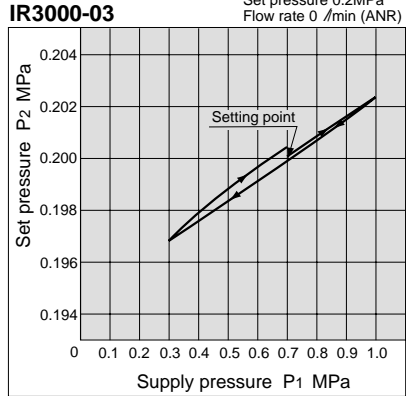


IR3120-03 Conditions: Back pressure 1.0MPa



Pressure characteristics

Conditions: Supply pressure 0.7MPa
Set pressure 0.2MPa
Flow rate 0 l/min (ANR)



Made To Order Specifications

Contact SMC regarding detailed dimensions, specifications and delivery times



1 Clean Room Specifications

10 — Standard part number

Note) Contact SMC if equipped with pressure gauge.

- Clean room specifications

Specifications

Cleanliness	Class 10000
Bleed port	With M5 fitting (applicable tube O.D. ø6)
EXH port	IR1000/2000: M5 fitting (applicable tube O.D. ø6) IR3000: Rc(PT) 1/2 female thread
Grease	Teflon® grease

Teflon® is a registered trade mark of DuPont.

2 Copper-free Specifications

External and internal copper parts are changed to stainless steel or aluminum.

20 — Standard part number

Note) Contact SMC if equipped with pressure gauge.

- Copper-free specifications

3 Ozone Resistant Specifications

Fluoro rubber is used for rubber seal materials.

80 — Standard part number

- Ozone resistant specifications

4 For High and Low Temperature Environments

Standard part number — T

- For high/low temperature environments

T	For high temperature
L	For low temperature

Specifications

Symbol	T	L
Environment	For high temp. environments	For low temp. environments
Ambient temperature	-5 to 100°C (Max. 80°C with pressure gauge)	-30 to 60°C
Rubber material	Fluoro rubber	Special NBR or silicon rubber

Note:
°F = (°C x 1.8) + 32°
1MPa = 145psi

5 Non-Grease Specifications

Assembly is performed in an ordinary environment without using grease. However, since parts are not washed they are not completely oil-free.

Standard part number — X1

- Non-grease specifications

6 Manifold Specifications (except type IR2120 and series IR3000)

2 to 8 station manifold type regulators.
(Contact SMC regarding 9 or more stations.)

IRM 10-3 G-

- Set pressure and quantity

0□	0.2MPa setting	1 to n pcs.
1□	0.4MPa setting	1 to n pcs.
2□	0.8MPa setting	1 to n pcs.

Example 1) 0.4MPa setting with 6 stations
IRM10-6G-16

Example 2) 0.2MPa setting 2pcs.,
0.4MPa setting 2pcs.,
0.8MPa setting 1pc. with 5 stations
IRM20-5G-021221

- Accessory (pressure gauge)

Nil	None
G	IR1000: G33-□01 IR2000: G43-□01

- Stations

2	2 stations
⋮	⋮
8	8 stations

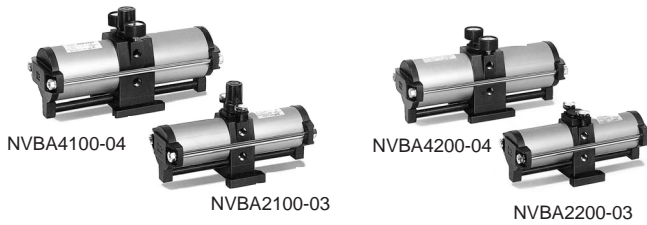
- Body size

10	IR1000
20	IR2000

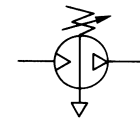
- Manifold type regulator

Specifications

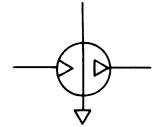
Stations	2 to 8 stations
Ports	Common SUP IR1000: Rc(PT) 1/4, IR2000: Rc(PT) 3/8
	Individual OUT IR1000: Rc(PT) 1/8, IR2000: Rc(PT) 1/4
	Individual EXH (from IR body)
Set pressure	0.2MPa, 0.4MPa and 0.8MPa settings can be combined
Accessory (pressure gauge)	G33-□-01 (IR1000), G43-□-01 (IR2000)



ANSI Symbol



Handle Type



Air Pilot Operated

Increases main line pressure up to two times. Saves energy and money.

The booster regulator, when connected to air supply line, increases pressure up to two times.

Main air supply pressure may be set low.

Use booster regulator only on branches where higher pressure is needed.

Desired pressure increase easily adjusted.

Almost no temperature increase: additional cooling units not needed.

The booster regulator works without any electrical inputs.

Specifications

Pressure increase ratio	Max 1:2
Media	Air
Proof pressure psig (MPa)	220 (1.5)
Max. working pressure psig (MPa)	150 (1.0)
Set pressure range psig (MPa)	30~150 (0.2~1.0)
Ambient and media temp. range	35° ~ 120° F (2° ~ 50° C)
Lubrication	Non-Lube
Installation	Horizontal
Pressure adjustable mechanism	Relief style

Model

	Handle Type		Air Pilot Operated Type		
	NVBA2100-T03	NVBA4100-T04	NVBA2200-T03	NVBA4200-T04	
Max. flow SCFM (NI/min.)*	28 (1000)	63 (1900)	28 (1000)	63 (1900)	
Port Size (IN, OUT) NPTF	3/8	1/2	3/8	1/2	
EXH. port size NPTF	3/8	1/2	3/8	1/2	
Pilot port size	—		1/8 NPTF		
Pilot pressure psig (MPa)	—		15 ~ 75 (0.1~0.5)		
Weight lbs. (kgf)	8.4 (3.8)	16.5 (7.5)	8.4 (3.8)	16.4 (7.5)	
Option	Pressure gauge	VBA2-G3	K50A-MP1.0-N02M (2 locations)	VBA2-G3	K40A-MP1.0-N01M (2 locations)
	Silencer	NAN300-N03	NAN400-N04	NAN300-N03	NAN400-N04

*Pressure: IN = OUT = 75 PSI (5kgf/cm²)

Related Equipment

Type	NVBA2100 • 2200	NVBA4100 • 4200
Mist Separator	NAM450-N04, N06	NAM5500-N06, N10
Exhaust Cleaner	NAMC510-N06	NAMC610-N10

Repair Kit

Type	NVBA2100	NVBA4100	NVBA2200	NVBA4200
Lower	KT-VBA2100-1-P	KT-VBA4100-P	KT-VBA2200-1	KT-VBA4200-1
Upper/Lower	KT-VBA2100-1	KT-VBA4100-1	—	—

How To Order
NVBA2100-4200

N
VBA
2
1
00
T
03
GN

Version

- N — U.S.A.
- E — Europe*
- Nil — Japan, Asia, Australia

*Special order only

Booster regulator

Body size

- 2 — 3/8
- 4 — 1/2

Type of pressure adjustment

- 1 — Handle type
- 2 — Air pilot operated type

Option

- G — Pressure gauge
- N — Silencer

Port size

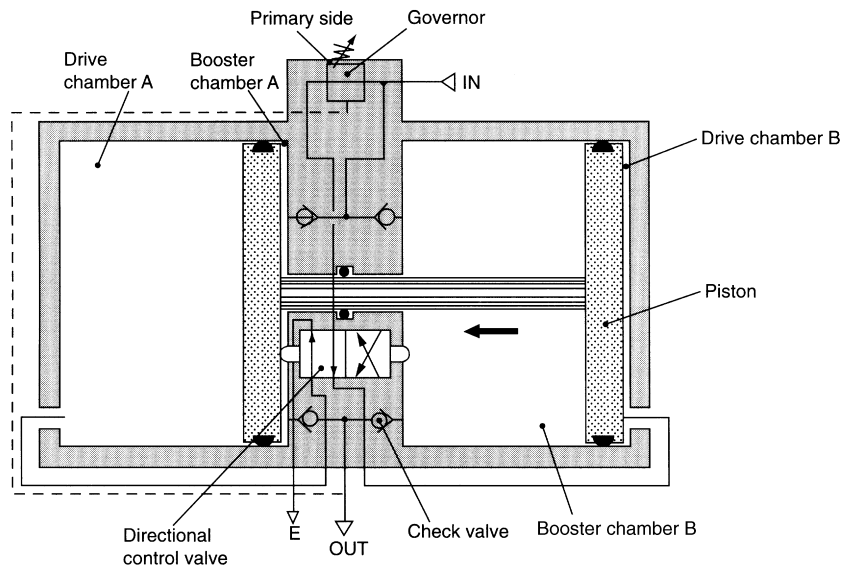
Code	Port size	Applicable model
03	3/8	NVBA2100,2200
04	1/2	NVBA4100,4200

Port thread

Code	Thread	Applicable
T	NPTF	USA
F*	G (PF)	Europe*
Nil	Rc (PT)	Japan, Asia, Australia

*Special order

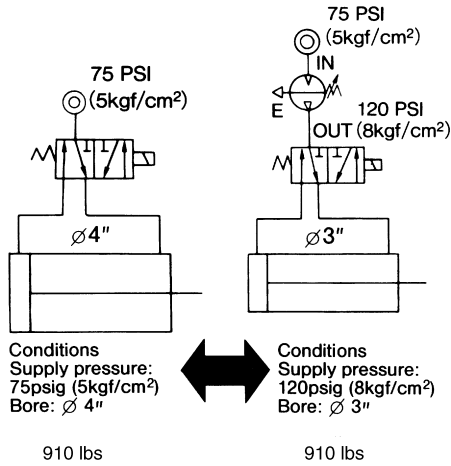
Operation



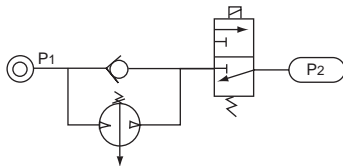
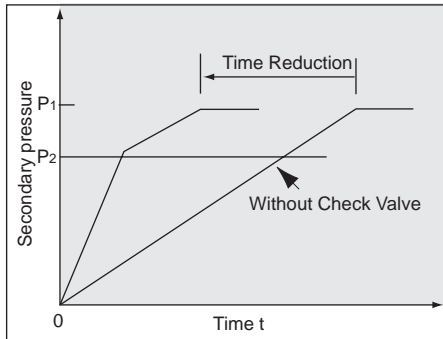
Primary air pressure is supplied from the IN port to the booster chambers A and B via the check valves and drive chamber B via the governor and directional control valve. The pressure in booster chamber A and drive chamber B forces the piston to move, pressurizing the air in booster chamber B, which, subsequently, exits from the OUT port via the check valve. When the piston reaches its stroke end, it switches the directional control valve to vent the pressure in drive chamber B and to supply air pressure to drive chamber A. The process will then repeat, ensuring a continuous supply of air with a pressure higher than that entering the IN port. Secondary pressure is fed back to the governor, allowing accurate control of output pressure.

Applications

- 1 Equipment that requires higher pressure than that of plant lines.
- 2 Protects downstream equipment from pressure fluctuations.
- 3 Increases the power of an actuator with out changing to a larger cylinder.

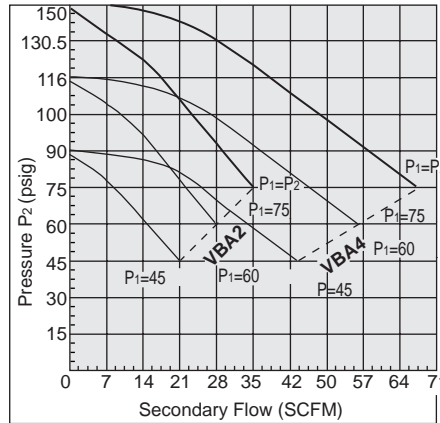


- 4 Increases the effective hydraulic pressure of a Air Hydro Unit.
- 5 A compact drive unit, i.e. small cylinder is required.



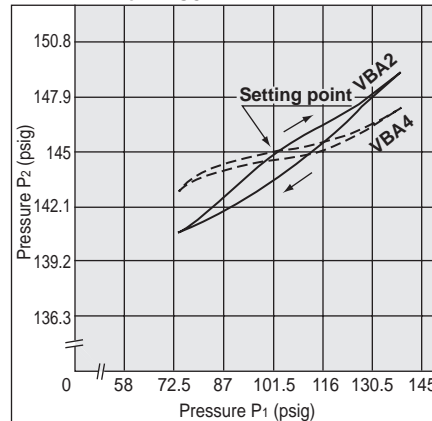
- 6 High pressure air is required without using electric power.

Flow Characteristics



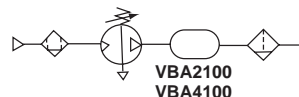
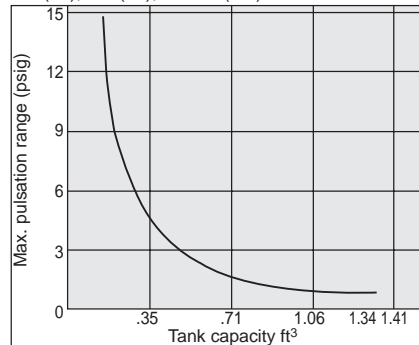
Pressure Characteristics

Conditions: Supply pressure 100 psig
Secondary pressure 145 psig
Flow .7 SCFM

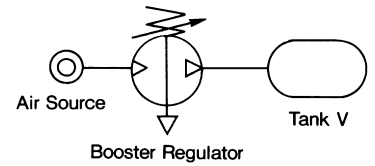


Pulsation

.35 (10), .71 (20), 1.34 ft³ (38) Tank



Charge Characteristics



Example For NVBA4

The required time to increase tank pressure from 120 PSI to 150 PSI at 75 PSI supply pressure is calculated as follows.

$$\frac{P_2}{P_1} = \frac{120}{75} = 1.6$$

$$\frac{P}{P_1} = \frac{150}{75} = 2.0$$

With the pressure increase ratio from 1.6 to 2.0, the time of 2.4 sec. (t) is given for .35ft³ tank by the graph.

$$(3.5-1.1=2.4)$$

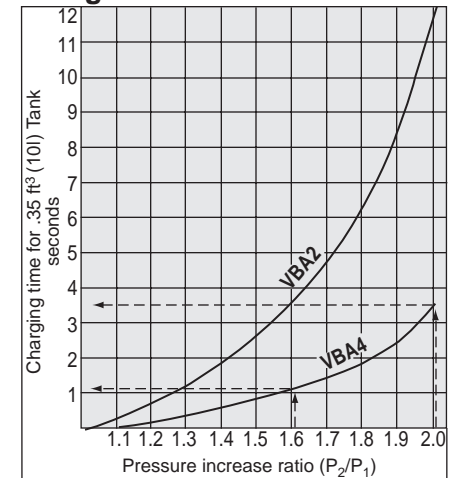
Then, the charging time (T) for a 10 ft³ tank,

$$T = t \times \frac{V}{.35}$$

$$= 2.4 \times \frac{10}{.35}$$

$$= 69(\text{sec.})$$

Charge Characteristics



Booster Regulator
NVBA2100-4200

Precautions

Air Quality

Poor quality air will increase the sliding resistance of moving parts, resulting in failure of the booster regulator to meet its specified characteristics.

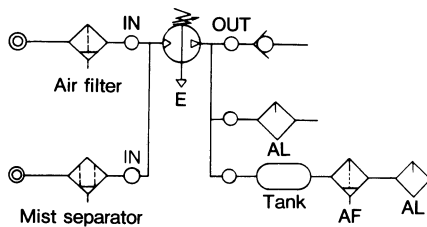
Install an air filter of $5\mu\text{m}$ (NAF3000,4000) filtration rate or its equivalent at the primary pressure side.

Piping should be carefully flushed to remove dust and scale completely.

Connection Diagram

Lubricators should be connected to the secondary side of the booster regulator.

Install a mist separator (example: NAFM 3000, 4000) if the supply air contains oil mist and/or carbon.



Exhaust

Install either a silencer (NAN300-N03 or NAN400-N04) or an exhaust cleaner (NAMC610-N10) at the exhaust port of the booster regulator.

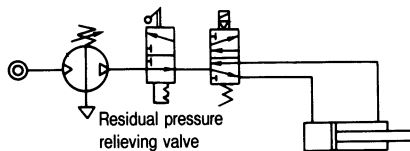
Installation

The booster regulator should be installed with its piston in a horizontal position.

Securely tighten the mounting bolts to prevent dislocation of the booster regulator. Where transmission of vibration should be avoided, use vibration-isolating rubber pads.

Residual Pressure

To enable exhaust of residual pressure in case of an emergency, install a 3 port valve at the OUT port of the booster regulator.

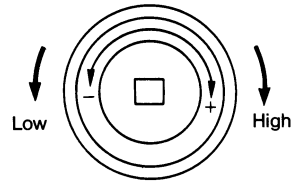


Pressure Setting

Handle Type

Pull up the adjustment handle and turn it as indicated by the arrow to adjust the pressure. Push the handle to lock it in place.

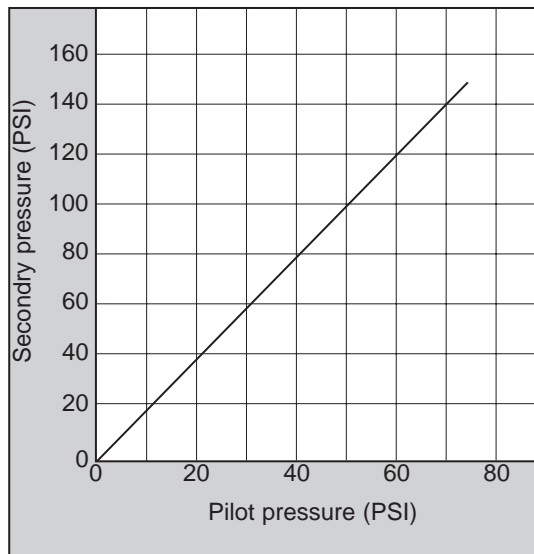
If the secondary pressure setting is reduced, pressure is relieved through the governor.



Air Pilot Operated Type

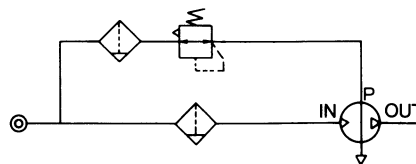
Secondary pressure is twice the pilot pressure.

A shift of pilot pressure from 30 PSI (0.2 MPa) to 60 PSI (0.4 MPa) results in a change of secondary pressure from 60 PSI (0.4 MPa) to 120 PSI (.83 MPa).

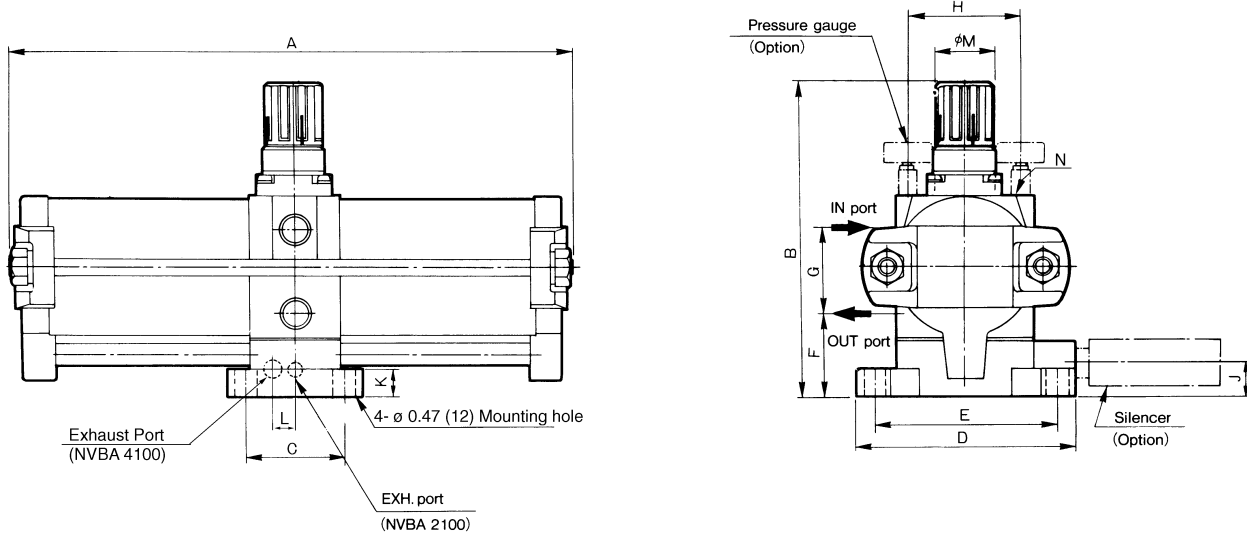


For on-site control, connect a small air regulator to the pilot port (P) of the booster regulator.

SMC regulators, model NAR2000 or NAW2000 are recommended for regulation of the pilot pressure.



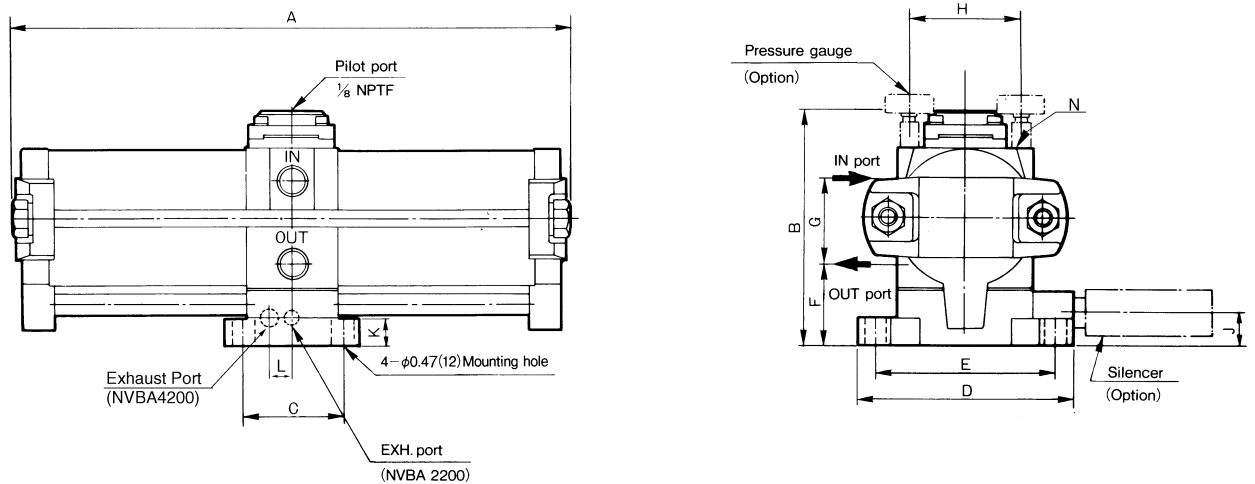
Handle Type



Millimeters in Parentheses

Model	Port Size NPTF	A	B	C	D	E	F	G	H	J	K	L	øM	N
NVBA2100-T03	3/8	11.81 (300)	6.69 (170)	2.09 (53)	4.65 (118)	3.86 (98)	1.81 (46)	1.69 (43)	2.38 (60.5)	0.71 (18)	0.59 (15)	—	1.22 (31)	1/16 NPTF
NVBA4100-T04	1/2	15.91 (404)	8.17 (207.5)	3.78 (96)	5.91 (150)	5.12 (130)	2.47 (62.8)	2.44 (62)	3.54 (90)	0.67 (17)	0.59 (15)	0.79 (20)	1.57 (40)	1/8 NPTF

Air Pilot Operated Type



Millimeters in Parentheses

Model	Port Size NPTF	A	B	C	D	E	F	G	H	J	K	L	N
NVBA2200-T03	3/8	11.81 (300)	4.98 (126.5)	2.09 (53)	4.65 (118)	3.86 (98)	1.81 (46)	1.69 (43)	2.38 (60.5)	0.71 (18)	0.59 (15)	—	1/16 NPTF
NVBA4200-T04	1/2	15.91 (404)	6.57 (167)	3.78 (96)	5.91 (150)	5.12 (130)	2.47 (62.8)	2.44 (62)	3.54 (90)	0.67 (17)	0.59 (15)	.79 (20)	1/8 NPTF



Specifications

Booster Valve	NVBA1110	NVBA1111
Pressure increase ratio	Max. 1:2	Max. 1:4
Fluid	Air	
Proof pressure psig (MPa)	435 (3.0)	
Input supply pressure psig (MPa)	15 ~ 150 (0.1 ~ 1.0)	
Set pressure range psig (MPa)	30 ~ 290 (0.2 ~ 2.0)	
Ambient and fluid temperature	35 ~ 120° F (2 ~ 50° C)	
Lubrication	Non-Lube	
Installation	Horizontal	
Pressure adjustable mechanism	Relief style	
* Max. Flow	14.2SCFM (400N/min)	17.8SCFM (500N/min)
IN, OUT, EXH Port Size	1/4 NPTF	
Weight lbs (kgf)	1.87 (0.85)	2.16 (0.98)

*Pressure: IN = OUT = 150 PSI (1.0 MPa)

Related Equipment

Mist Separator	NAM250-N02
Exhaust Cleaner	NAMC310-N03

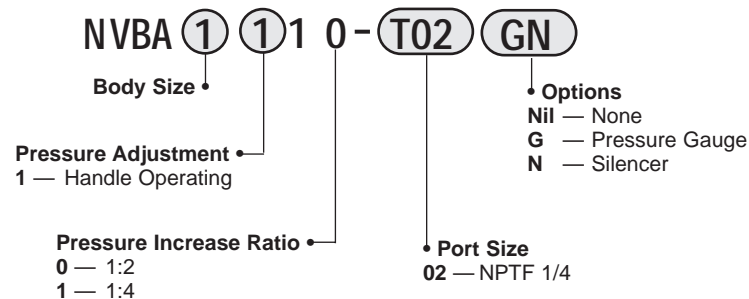
Repair Kit

Lower	KT-VBA1110-P	KT-VBA1111-P
Upper/Lower	KT-VBA1110-1	KT-VBA1111

Options

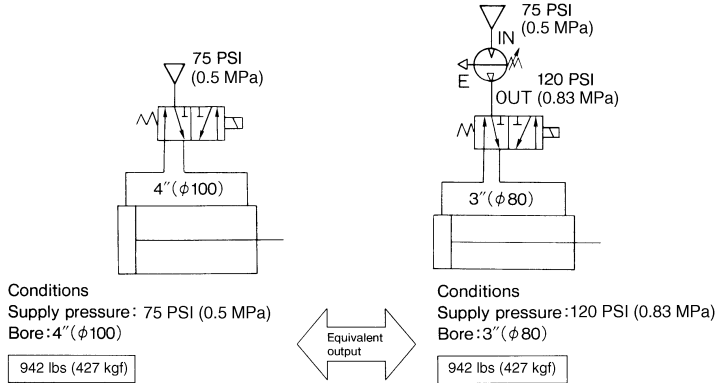
Gauge	G27-20-R1
Silencer	NAN200-N02

How to Order

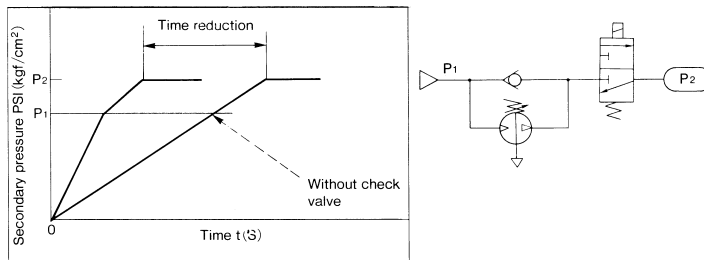


Applications

- ① Equipment requiring higher pressure than that of plant lines.
- ② Protects downstream equipment from pressure fluctuations.
- ③ Increases the power of an actuator.



- ④ Increases the effective hydraulic pressure of a Air Hydro Unit.
- ⑤ A compact drive unit, i.e. small cylinder is required.

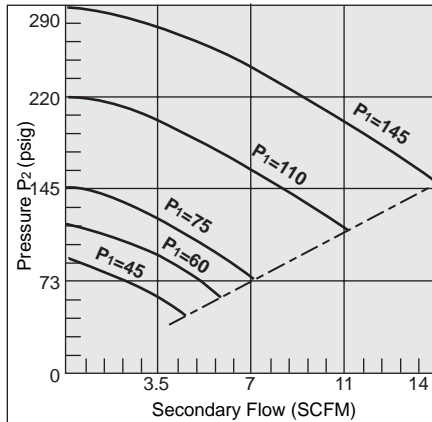


- ⑥ High pressure air is required without using electric power.

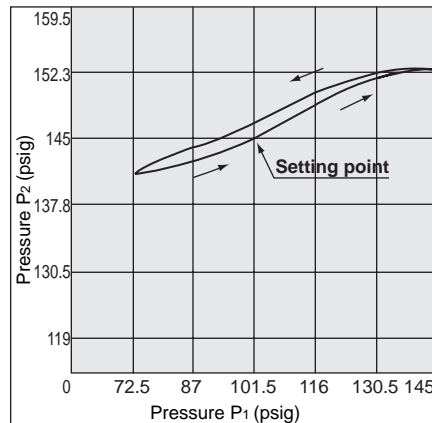
Booster Regulator
NVBA1100/1111

NVBA1110

Flow Characteristics

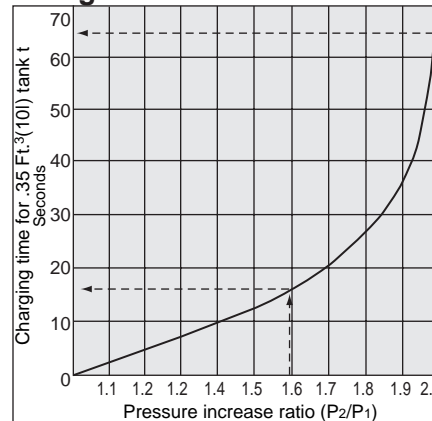


Pressure Characteristics



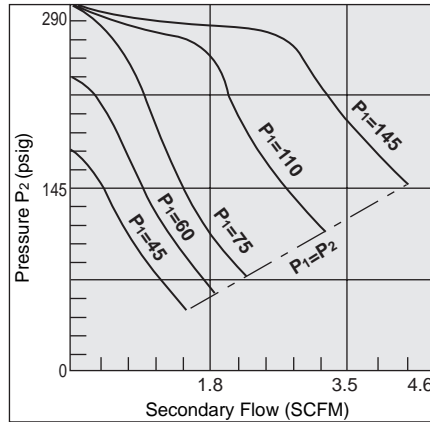
Conditions: Supply pressure 87psig
Secondary pressure 145psig
Flow .4 SCFM

Charge Characteristics

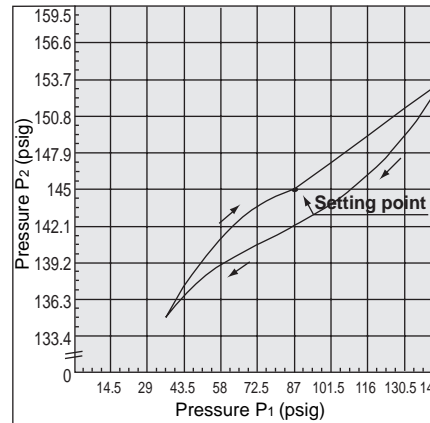


NVBA1111

Flow Characteristics

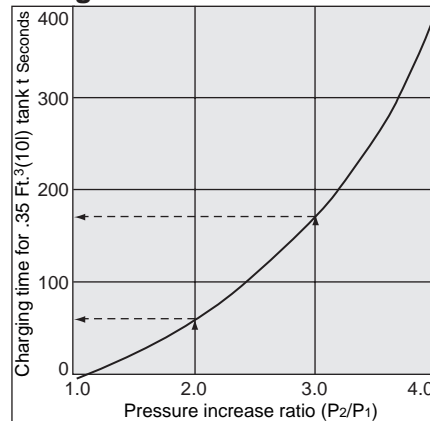


Pressure Characteristics



Conditions: Supply pressure 87psig
Secondary pressure 145psig
Flow .4 SCFM

Charge Characteristics



Example for NVBA1110

The required time to increase tank pressure from 120 psi to 150 psi at 75 psi supply pressure is calculated as follows:

$$\frac{P_2}{P_1} = \frac{120}{75} = 1.6$$

$$\frac{P_2}{P_1} = \frac{150}{75} = 2.0$$

With the pressure increase ratio from 1.6 to 2.0, the time of 49 seconds (t) is given for .35 ft³ tank by the graph (65-16=49). Then, the charging time (T) for a .5 ft³ tank,

$$T = t \times \frac{V}{.35}$$

$$= 49 \times \frac{.5}{.35}$$

$$= 70 \text{ seconds}$$

Example for NVBA1111

The required time to increase tank pressure from 150 psi to 225 psi at 75 psi supply pressure is calculated as follows:

$$\frac{P_2}{P_1} = \frac{150}{75} = 2.0$$

$$\frac{P_2}{P_1} = \frac{225}{75} = 3.0$$

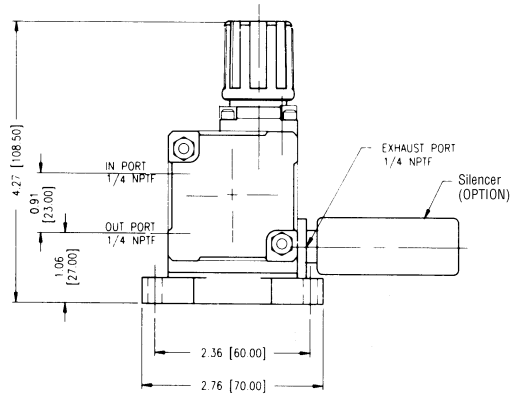
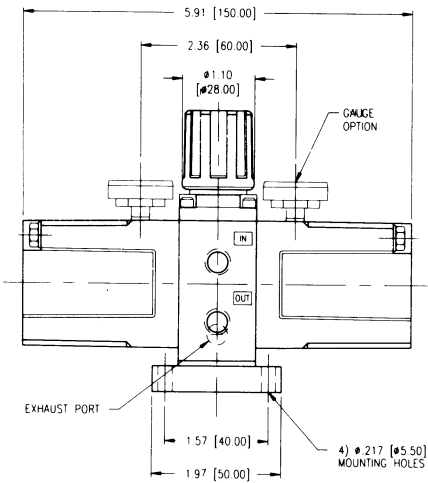
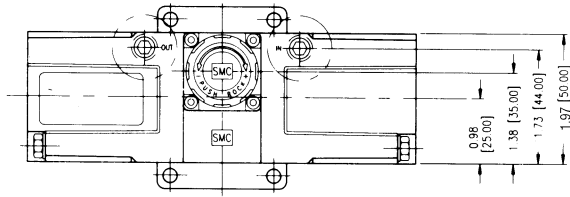
With the pressure increase ratio from 2.0 to 3.0, the time of 110 seconds (t) is given for .35 ft³ tank by the graph (170-60=110). Then, the charging time (T) for a .5 ft³ tank,

$$T = t \times \frac{V}{.35}$$

$$= 110 \times \frac{.5}{.35}$$

$$= 157 \text{ seconds}$$

Dimensions Inch (mm)



Non-Modular Specialty Lubricators

Non-Modular Specialty Lubricators . . .175-178

NAL430, 460 Micro Mist Lubricator 176

NALF400-900 Auto Feed Lubricator 177-178

Warranty Information 179

Micro Mist Lubricators
NAL430, 460



NAL430

Specifications

	NAL430	NAL460
Proof pressure psig (MPa)	220 (1.5)	
Max. operating pressure psig (MPa)	150 (1.0)	
Ambient & fluid temperature	40 ~ 140° F (5 ~ 60° C)	
Recommended lubricant	Turbine oil #1 (ISO VG32)	
Bowl	Polycarbonate	
Body	ZDC	

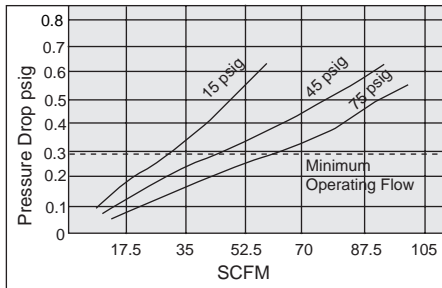
Model

Description	Low pressure NAL430	High pressure NAL 460	
Pressure regulating psig (MPa)	7~30 (0.05~2.0)	7~150 (0.05~1.0)	
Pipe size	1/4 • 3/8 • 1/2	1/4 • 3/8 • 1/2	
Oil capacity oz (cm ³)	7 (206)	7 (206)	
Weight lbs (kgf)	2.6 (1.18)	2.6 (1.18)	
Accessories	Standard	Bowl Guard	•
	Option	Bracket	B44P
34 oz metal bowl	0	0	
With float switch	0	0	
Metal bowl	0	0	
Applications	Cooling, bearing gear-chain frictions surfaces	Cylinders, sol. valves, hand valves, air tools	
Maximum piping distance ft. (m)	33 (10)	33 (10)	

Float Switch Specifications

Description	IS410-1~2
Capacity	AC: 15VA, DC: 15W
Voltage	AC100V, DC250V
Proof Pressure psig (MPa)	220 (1.5)
Max. Oper. Pressure psig (MPa)	150 (1.0)
Media	Water, Oil
Ambient and Fluid Temperature	40~140° F (5~60° C)

Flow Characteristics

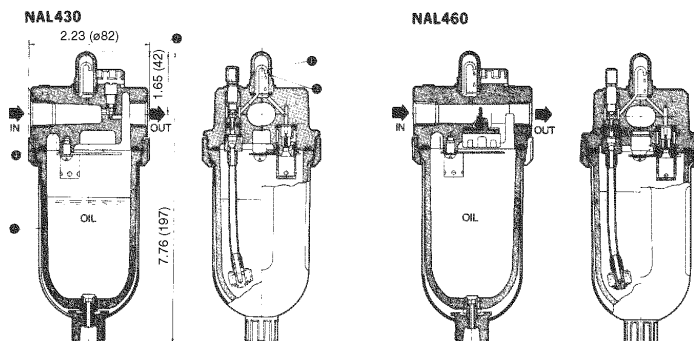


How To Order

NAL 4 3 0-N 02 B 1

- Construction type**
 - 3 — Low pressure
 - 6 — High pressure
- Pipe size**
 - 02 — 1/4
 - 03 — 3/8
 - 04 — 1/2
- Options**
 - 1 — 34 oz (1000cm³) metal bowl w/sight glass
 - 1S-1 — 34 oz (1000cm³) metal bowl w/sight glass & float switch (float down- ON)
 - 1S-2 — 34 oz (1000cm³) metal bowl w/sight glass & float switch (float down- OFF)
 - 2 — Metal Bowl
- Options**
 - B — Bracket

Construction



Parts

No.	Name	Material	Part No.
①	Needle valve assembly	C3604	125217PA
②	Fill plug assembly	ZDC	12314PA
③	Sight dome	Polycarbonate	12316
④	O-ring	NBR	113136
⑤	Bowl and Guard	SPC/Polycarbonate	NAL12-4-3



Lubricator
NALF400



Tank
NALT-5

Specifications

Auto Feed Lube NALF	NALF400	NALF400-N06	NALF500	NALF600	NALF800	NALF900
Max. supply pressure psig (MPa)	220 (1.5)					
Max. operating pressure psig (MPa)	100 (0.7)					
Pressure differential operating range* psig (MPa)	15~90 (0.1~0.6)					
Operating temp. range	40° ~140° F					
Recommended lubricant	Turbine Oil #1 (ISO VG32)					
Bowl	Polycarbonate					

Auto Feed Tank NALT	NALT-5	NALT-5-1S-*1	NALT-9	NALT-9-1S-*1
Max. supply pressure psig (MPa)	220 (1.5)			
Max. operating pressure psig (MPa)	150 (1.0)			
Operating temp. range	23° ~140° F (-5° ~60° C)			
Recommended lubricant	Turbine Oil #1 (ISO VG32)			
Body	ADC			

*Between tank and line pressure

Auto Feed Lubricator NALF Series

Model	NALF400			NALF400-N06	NALF500		NALF600	NALF800		NALF900
Pipe size	1/8	3/8	1/2	3/4	3/4	1	1	1-1/4	1-1/2	2
Min. flow for oil drip scfm	2.2	3.5	4.2	4.2	6.6		7.7	16.1	23	63
Weight lbs (kgf)	1.87 (0.85)			1.94 (0.88)	2.21 (1.0)		2.54 (1.15)	4.08 (1.85)		4.19 (1.9)
Bowl guard (standard)	•			•	•		•	•		•
Bracket	B44P			B44-1P	B45-1P	B45-2P	B46P	—		—

*With supply pressure of 73 psig oil drip rate 5 drops/min, use turbine oil #1 VG32, Temperature 68° F

Auto Feed Tank NALT Series

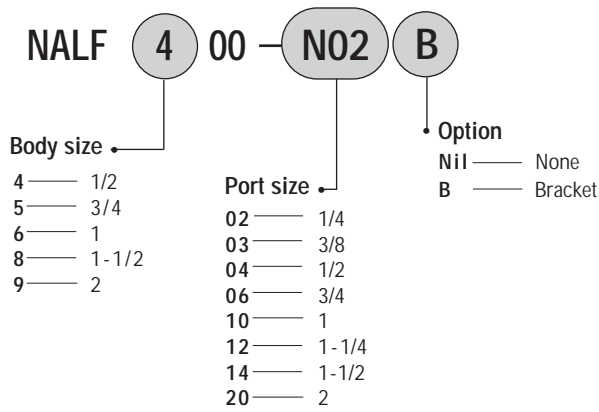
Model	NALT-5	NALT-5-IS-*1~2	NALT-9	NALT-9-IS-*1~2
Pipe size	Air IN: 1/4, OUT: 3/8			
Oil capacity oz (cm3)	169 (5000)	169 (5000)	304 (9000)	304 (9000)
Weight lbs (kgf)	27.8 (12.6)	29.1 (13.2)	57.3 (26.0)	58.7 (26.6)
Float switch specification*	—		—	
Voltage	—		100V 0.25A	100V 0.25A

*Float switch: Both a low level and high level float switch is available. Add Suffix 1 for a low level (Float down ON), 2 for high level switch (Float down OFF).

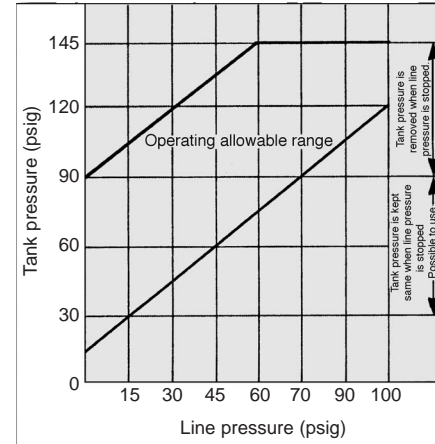
Auto Feed Lubricators

NALF400, 400-06, 500, 600, 800, 900

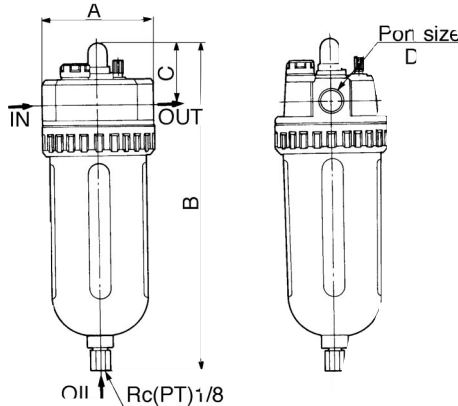
How To Order



Pressure Characteristics



Dimensions/Auto feed lubricator

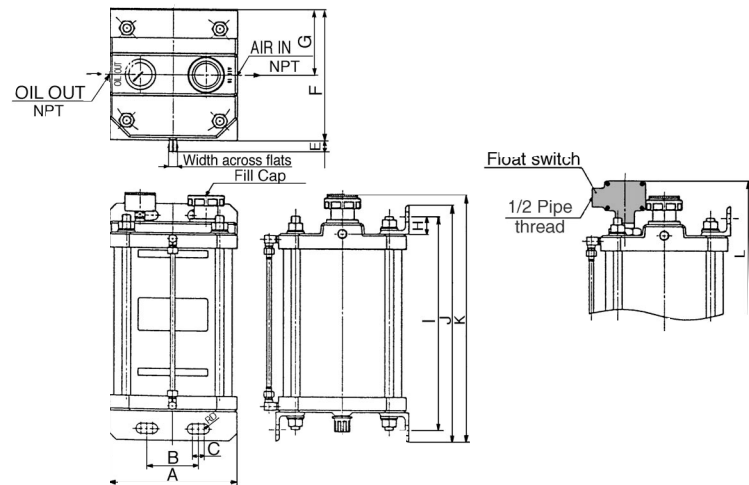


Model	A	B	C	Port Size D
NALF400	3.15 (80)	9.39 (238.5)	1.73 (44)	1/4 • 3/8 • 1/2
NALF400-N06	3.35 (85)	9.70 (246.5)	1.81 (46)	3/4
NALF500	3.54 (90)	11.63 (295.5)	1.89 (48)	3/4 • 1
NALF600	3.94 (100)	12.58 (319.5)	2.01 (51)	1
NALF800	3.94 (100)	13.33 (338.5)	2.32 (59)	1-1/4 • 1-1/2
NALF900	3.94 (100)	13.56 (344.5)	2.48 (63)	2

Oil Distributor

Model	Number of oil outlets	Remark
VA4	4	Both ends
VA6	6	Both ends
VA10	10	Both ends
VA16	16	Both ends
VB4	4	One side
VB6	6	One side
VB8	8	One side

Dimensions/Auto feed tank



Float Switch Specifications

Description	IS410-1~2
Capacity	AC: 15VA, DC: 15W
Voltage	AC100V, DC250V
Proof Pressure psig (MPa)	220 (1.5)
Max. Oper. Pressure psig (MPa)	150 (1.0)
Media	Water, Oil
Ambient and Fluid Temperature	40~140° F (5~60° C)

Model	A	B	C	D	E	F	G	H	I	J	K	L
ALT-5	6.85 (174)	2.76 (70)	.63 (16)	.28 (7)	3.58 (91)	4.17 (106)	7.76 (197)	.94 (24)	15.04 (382)	16.30 (414)	16.85 (428)	—
ALT-5-IS	6.85 (174)	2.76 (70)	.63 (16)	.28 (7)	3.58 (91)	4.17 (106)	7.76 (197)	.94 (24)	15.04 (382)	16.30 (414)	16.85 (428)	17.68 (449)
ALT-9	9.21 (234)	4.25 (108)	1.18 (30)	.28 (7)	4.76 (121)	5.39 (137)	10.16 (258)	1.57 (40)	16.61 (422)	18.58 (472)	—	—
ALT-9-IS	9.21 (234)	4.25 (108)	1.18 (30)	.28 (7)	4.76 (121)	5.39 (137)	10.16 (258)	1.57 (40)	16.61 (422)	18.58 (472)	—	18.98 (482)

WARRANTY AND CONDITIONS OF SALE

Buyer understands and agrees that as a condition of sale, SMC Pneumatics, Incorporated (SMC) warrants that for one year from date of purchase it will repair, replace or make product adjustments, at SMC's option, to any defective product sold, on the condition that the product is returned with SMC's prior written consent, transportation prepaid by buyer, and received by SMC at its place of business in Indianapolis, Indiana, within the warranty period. Prior to the product return, SMC shall have the right to inspect any products claimed to be defective at the buyer's facility.

This warranty is limited exclusively to products which, in the opinion of SMC, have not been subject to modification, misuse, neglect, misapplication, repairs, adjustments or alterations. Damage caused by fire, theft, riot, explosion, negligence, or acts of God are excluded from this warranty.

The foregoing constitutes the sole exclusive remedy for the buyer and the only obligation or liability of SMC. This warranty is in lieu of any and all other warranties, expressed, implied, or statutory, including but not limited to warranties as to merchantability, fitness for purpose sold, description, quality productiveness or any other matter. SMC shall not be liable for any damages because of loss of use, or loss of profits, or special or consequential damages, resulting from a defective product.

SMC assumes no responsibility for engineering or technical advice pertaining to any manufactured item to which SMC's products or goods have been attached. No agent, employee, distributor, or representative of SMC has the authority to extend the scope of this warranty or to make any promises, warranties or guarantees concerning the manufacture, sale or application of SMC's products.

CAUTION!

All filter and lubricator units that are equipped with polycarbonate bowls may be damaged and possibly fail if exposed to synthetic oils, thinner solvents, trichlorethylene, kerosene and other aromatic hydrocarbons. SMC recommends that bowl guards or metal bowls be utilized with filters, mist separators and lubricators.

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