

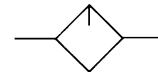
Lubricator

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

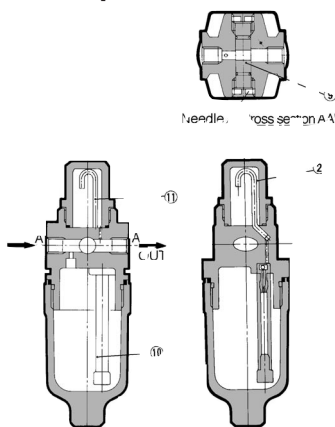
Model	NAL1000	NAL2000	NAL3000	NAL4000	NAL4000-N06	NAL5000	NAL6000
Port Size NPT	10-32 NOM. (M5)	1/8 • 1/4	1/4 • 3/8	1/4 • 3/8 • 1/2	3/4	3/4 • 1	1
Proof pressure psig (MPa)	220 (1.5)						
Max. oper. pressure psig (MPa)	150 (1.0)						
Min. oper. flow scfm*	0.14	0.53	1/4: 1.06 3/8: 1.41	1/4: 1.06 3/8: 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 ④ 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 ⑩ and dropped through fill tube to ⑪ "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.

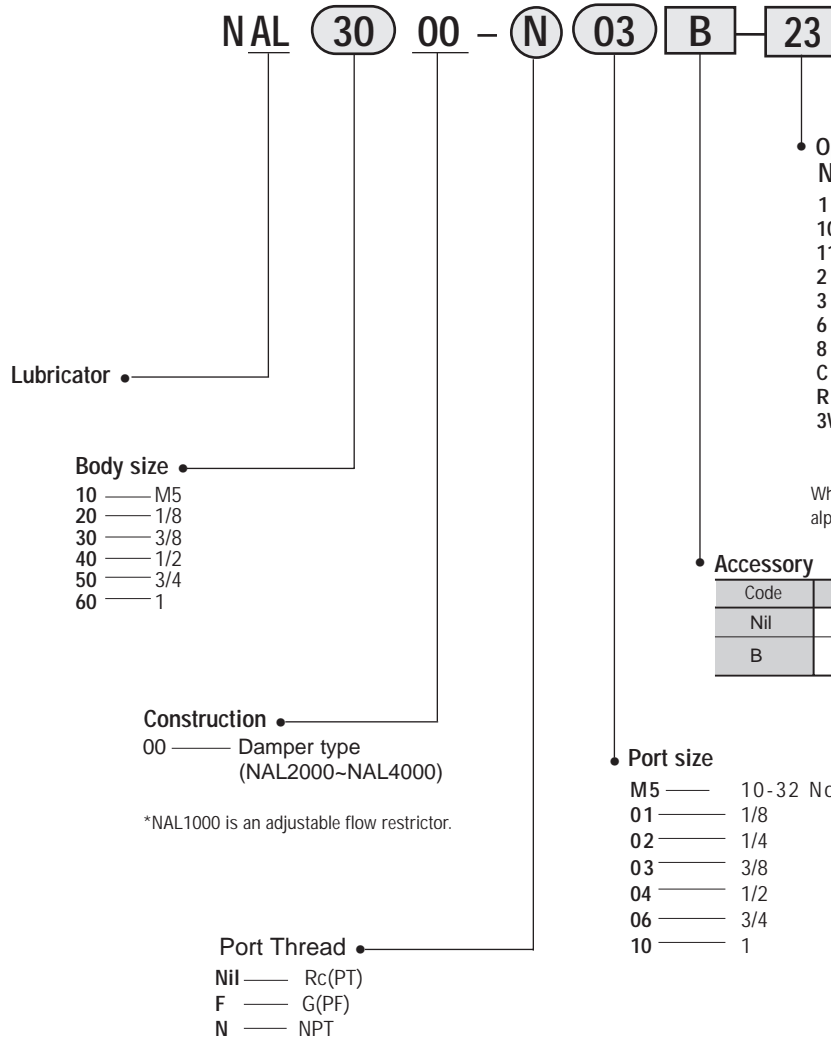
<Atmosphere>

- 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



Accessories and Combinations

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

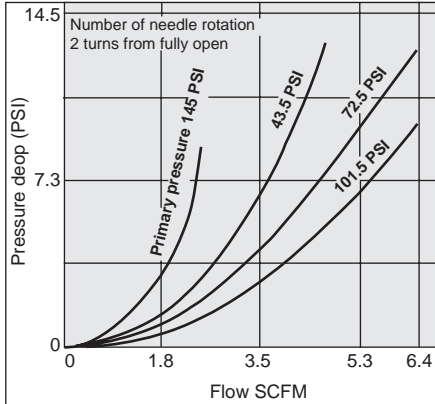
Accessories	Suffix												Applicable model				
		1	10	11	2	3	6	8	C	R	3W	NAL1000	NAL2000	NAL3000	NAL4000-NAL6000		
1000cm ³ tank	-1											▼				▼	▼
1000cm ³ tank (Switch ON)	-10											▼				▼	▼
1000cm ³ tank (Switch OFF)	-11											▼				▼	▼
Metal bowl	-2					▼						▼		▼	▼	▼	▼
With Drain Cock	-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

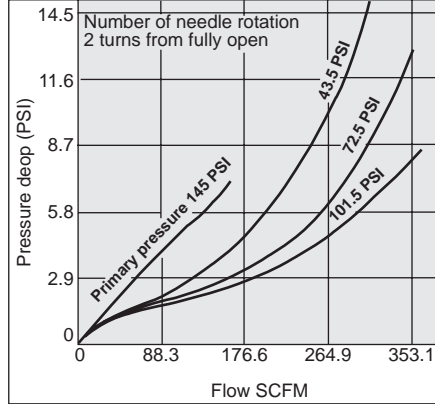
NAL1000, 2000, 3000, 4000, 5000, 6000

Flow Characteristics

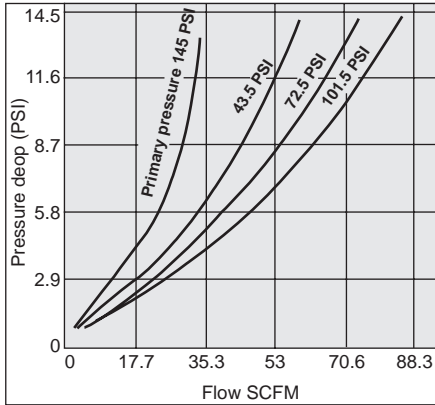
NAL1000



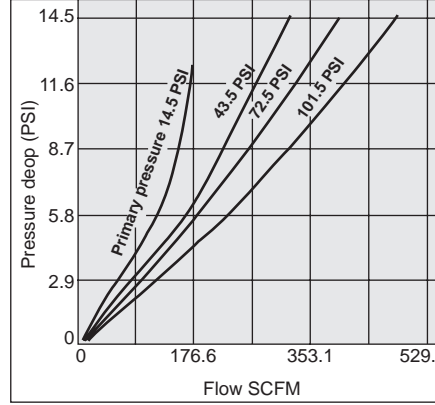
NAL4000-06



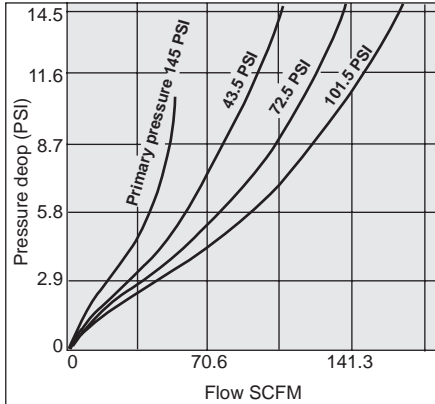
NAL2000



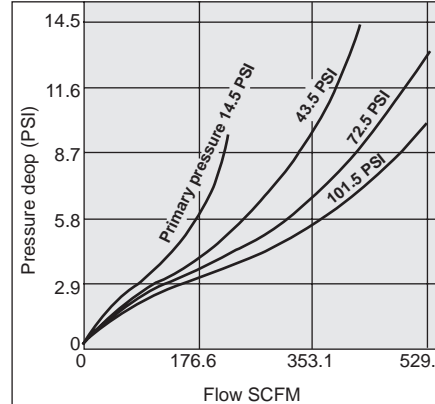
NAL5000



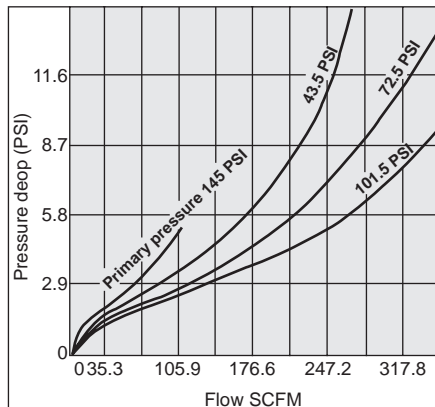
NAL3000



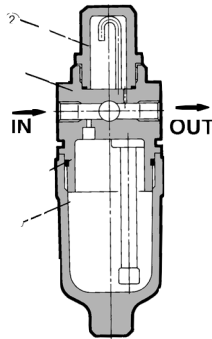
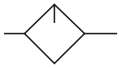
NAL6000



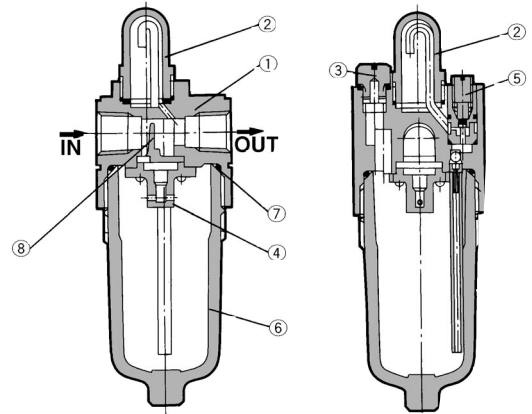
NAL4000



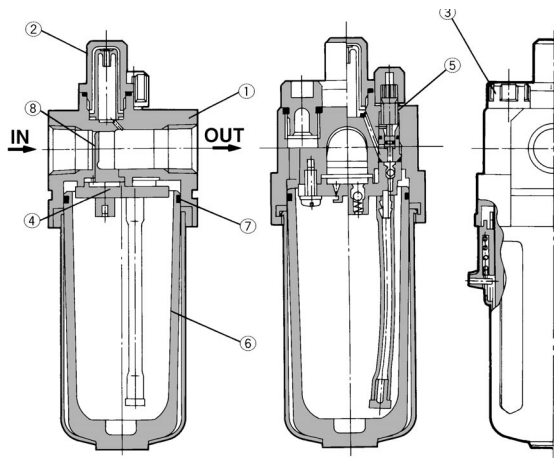
ANSI Symbol NAL1000



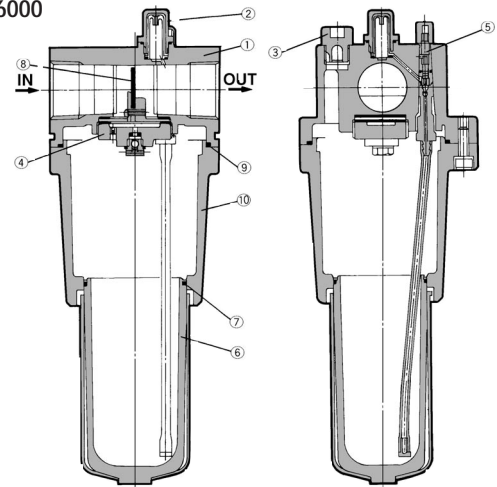
NAL2000



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

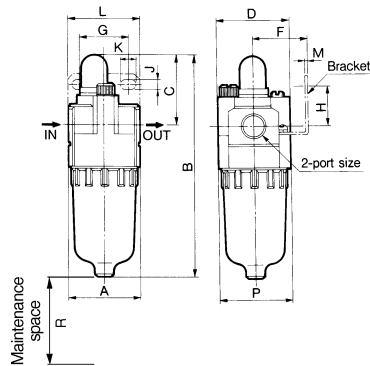
Component Parts List

	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

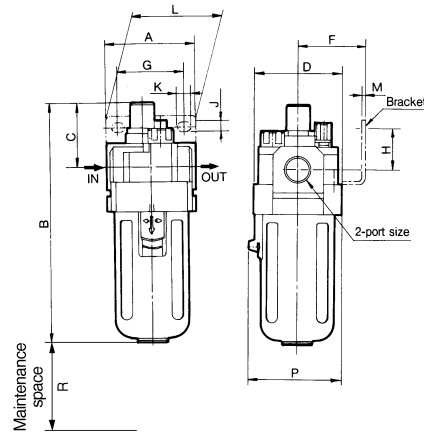
Dimensions

NAL1000, 2000, 3000, 4000, 5000, 6000

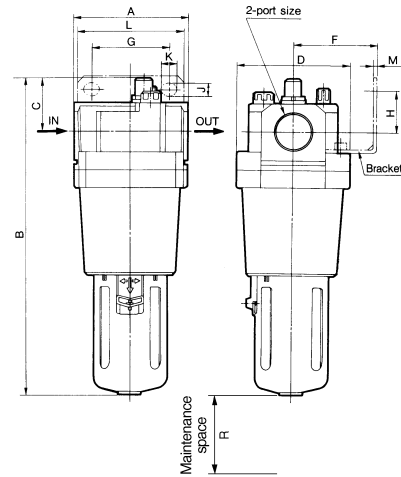
NAL1000•2000



NAL3000•4000

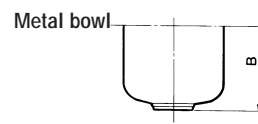
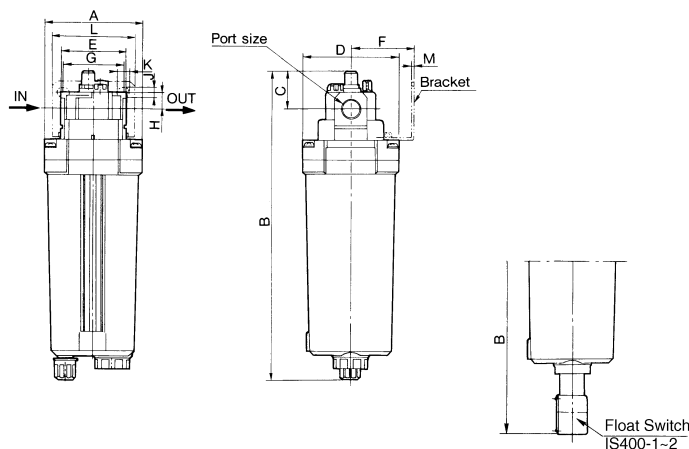


NAL5000•6000

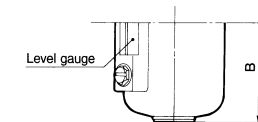


Model	Port size	A	B	C	D	F	G	H	J	K	L	M	P	R
NAL1000	10-32 Nom. (M5)	.98 (25)	3.21 (81.5)	1.00 (25.5)	.98 (25)	—	—	—	—	—	—	—	1.06 (27)	1.97 (50)
NAL2000	1/8 • 1/4	1.57 (40)	4.80 (122)	1.50 (38)	1.57 (40)	1.18 (30)	1.06 (27)	.87 (22)	.21 (5.4)	.33 (8.4)	1.57 (40)	0.09 (2.3)	1.57 (40)	3.15 (80)
NAL3000	1/4 • 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



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