

### 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 P/A air preparation equipment



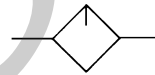
NAL3000



NAL2000



ANSI Symbol



### Specifications

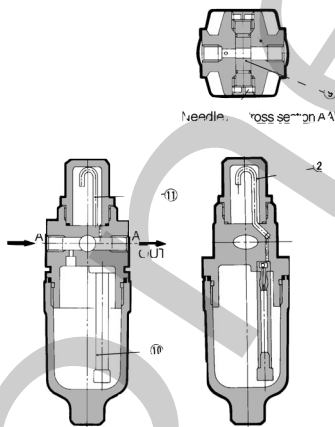
Model	NAL1000	NAL2000	NAL3000	NAL4000	NAL4000-N06	NAL5000	NAL6000
Port Size NPT	10-32 NOM. (M5)	1/8 • 1/4	1/4 • 3/8	1/4 • 3/8 • 1/2	3/4	3/4 • 1	1
Proof pressure psig (MPa)	220 (1.5)						
Max. oper. pressure psig (MPa)	150 (1.0)						
Min. oper. flow scfm*	0.14	0.53	1/4: 1.06 3/8: 1.41	1/4: 1.06 3/8: 1.41 1/2: 1.77	1.77	6.71	7.77
Bowl capacity ozs. (cm <sup>3</sup> )	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 P/A representative .
- 4 Never reverse the flow through this unit, *i.e.* Supply to OUT port.

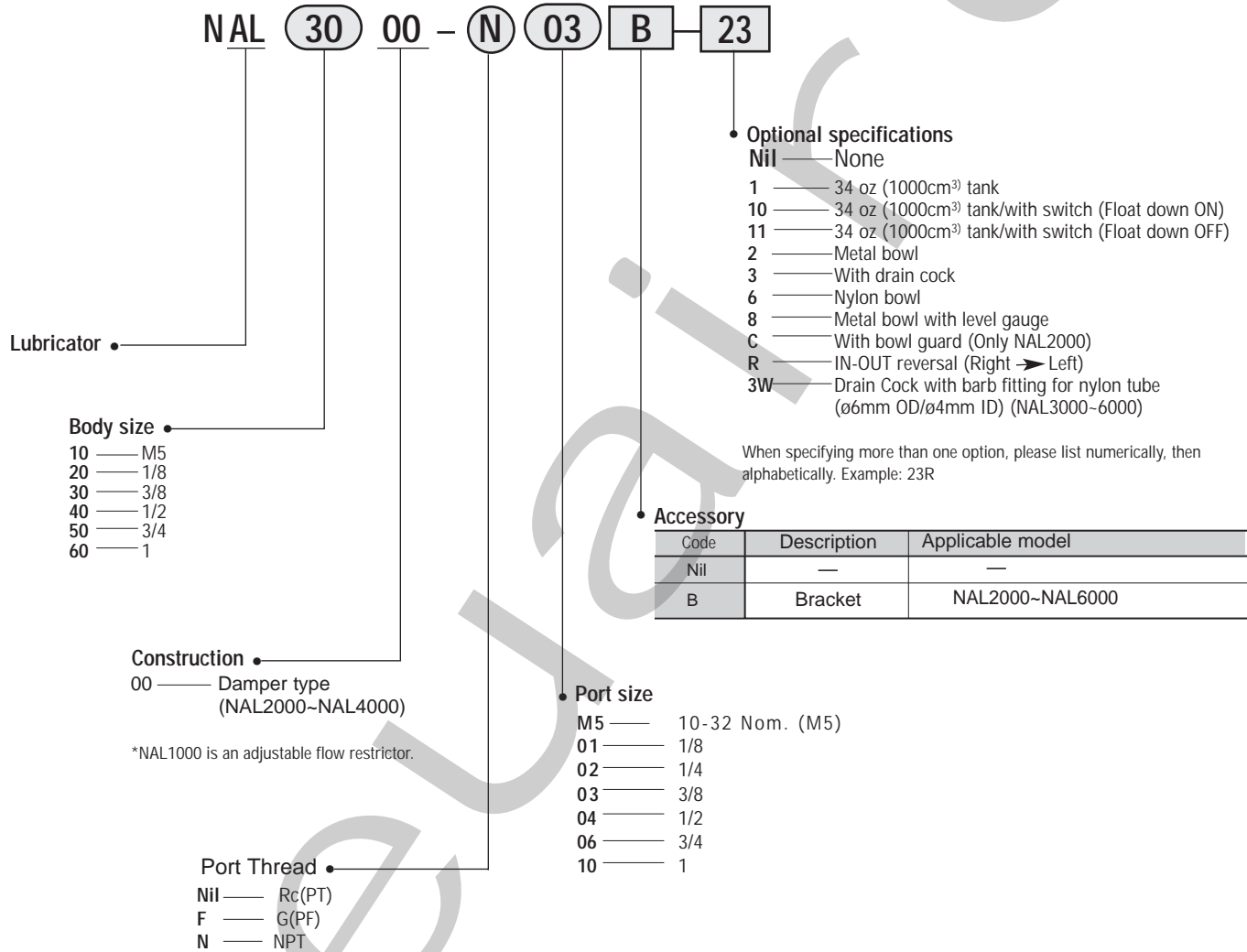
#### <Atmosphere>

- 1 Polycarbonate bowls may be damaged and possibly fail if exposed to synthetic oils, thinner solvents, trichlorethylene, 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"

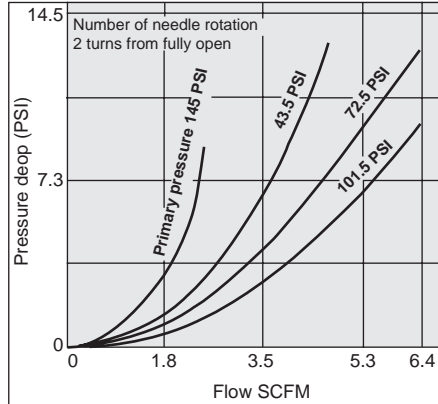
Accessories	Suffix	1	10	11	2	3	6	8	C	R	3W	Applicable model			
												NAL1000	NAL2000	NAL3000	NAL4000-NAL6000
1000cm <sup>3</sup> tank	-1									▼			▼	▼	
1000cm <sup>3</sup> tank (Switch ON)	-10									▼			▼	▼	
1000cm <sup>3</sup> tank (Switch OFF)	-11									▼			▼	▼	
Metal bowl	-2				▼					▼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

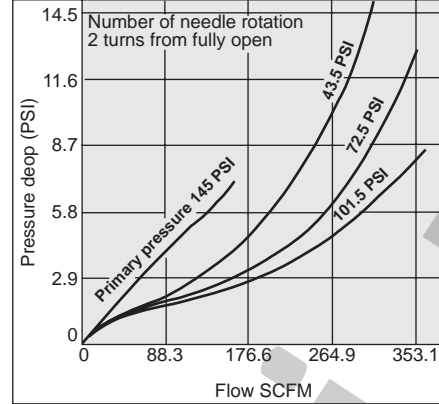
NAL1000, 2000, 3000, 4000, 5000, 6000

### Flow Characteristics

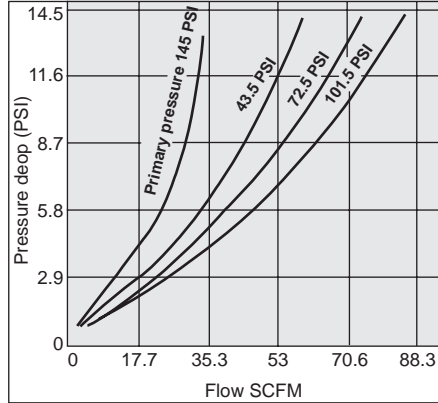
**NAL1000**



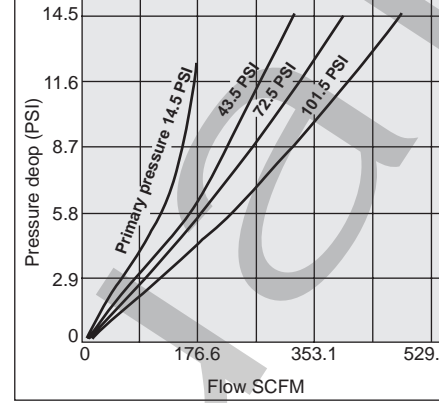
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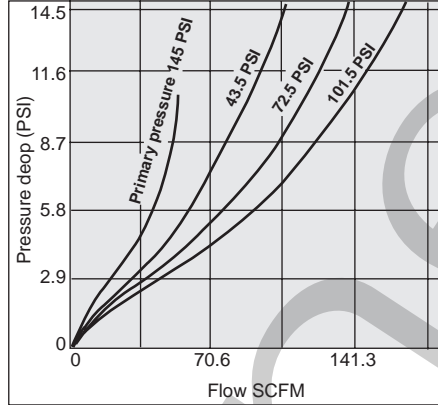
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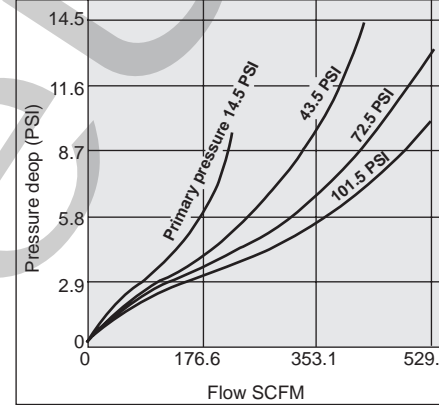
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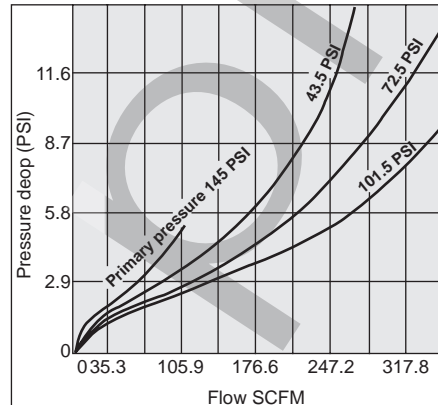
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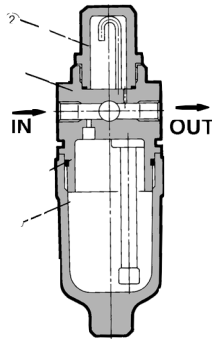
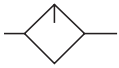
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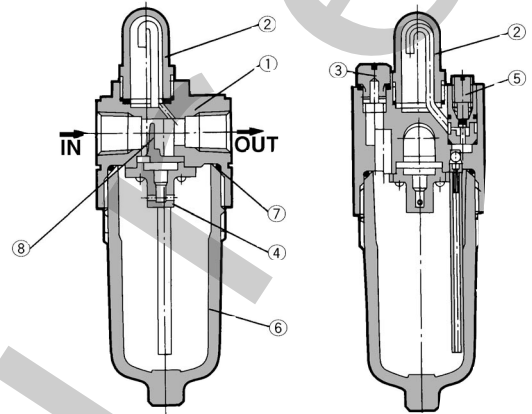
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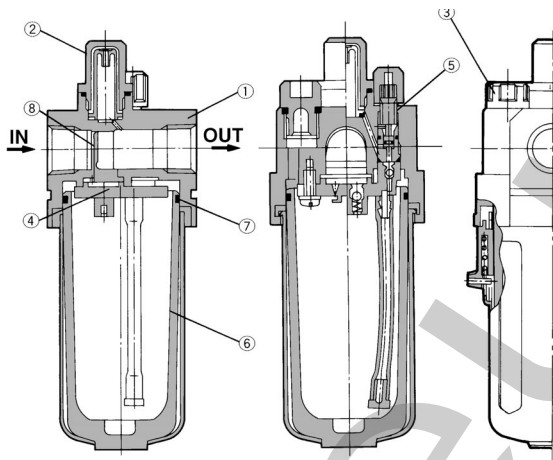
ANSI Symbol NAL1000



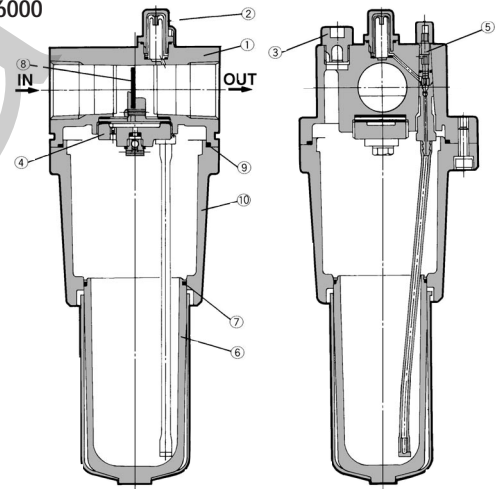
NAL2000



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

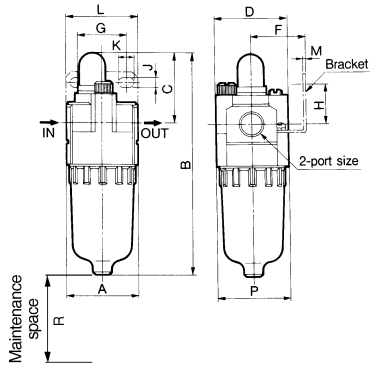
Component Parts List

	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

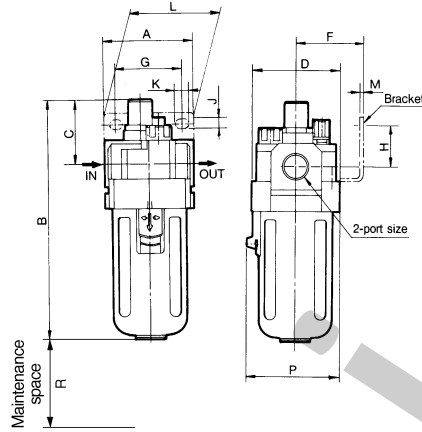
### Dimensions

NAL1000, 2000, 3000, 4000, 5000, 6000

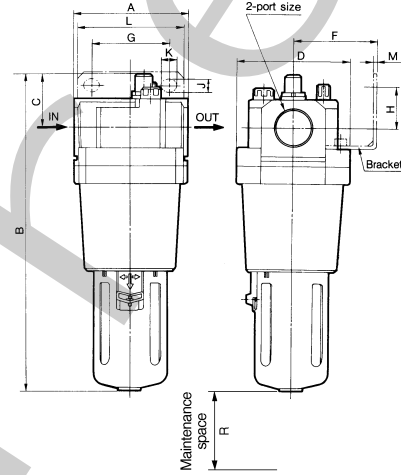
#### NAL1000•2000



#### NAL3000•4000

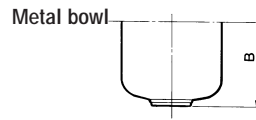
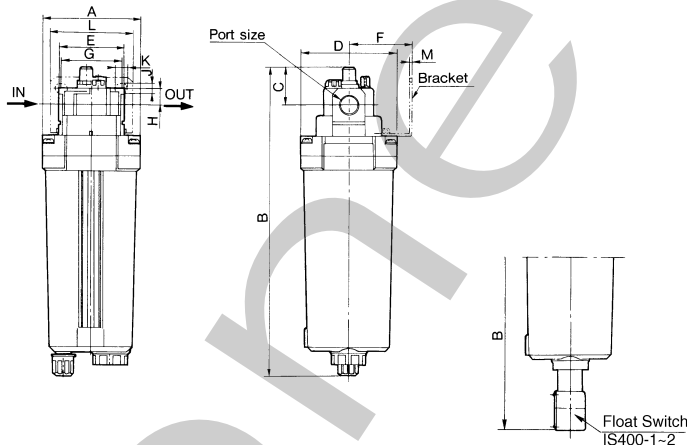


#### NAL5000•6000

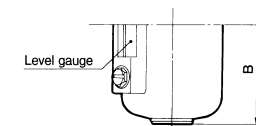


Model	Port size	A	B	C	D	F	G	H	J	K	L	M	P	R
<b>NAL1000</b>	10-32 Nom. (M5)	.98 (25)	3.21 (81.5)	1.00 (25.5)	.98 (25)	—	—	—	—	—	—	—	1.06 (27)	1.97 (50)
<b>NAL2000</b>	1/8 • 1/4	1.57 (40)	4.80 (122)	1.50 (38)	1.57 (40)	1.18 (30)	1.06 (27)	.87 (22)	.21 (5.4)	.33 (8.4)	1.57 (40)	0.09 (2.3)	1.57 (40)	3.15 (80)
<b>NAL3000</b>	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)
<b>NAL4000</b>	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)
<b>NAL4000-N06</b>	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)
<b>NAL5000</b>	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)
<b>NAL6000</b>	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. (1000cm<sup>3</sup>) Tank



Metal bowl



Metal bowl with level gauge

Model	Metal Bowl	Metal Bowl with level gauge
	B	B
<b>NAL1000</b>	24.24 (81.5)	—
<b>NAL2000</b>	37.12 (122)	—
<b>NAL3000</b>	43.28 (142)	49.38 (162)
<b>NAL4000</b>	53.95 (177)	60.04 (197)
<b>NAL4000-N06</b>	53.95 (177)	60.04 (197)
<b>NAL5000</b>	77.42 (254)	83.51 (274)
<b>NAL6000</b>	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		
<b>NAL3000-02-03-1</b>	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)
<b>NAL4000-02-04-1</b>	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)
<b>NAL4000-N06-1</b>	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)
<b>NAL5000-06-10-1</b>	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)
<b>NAL6000-N10-1</b>	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