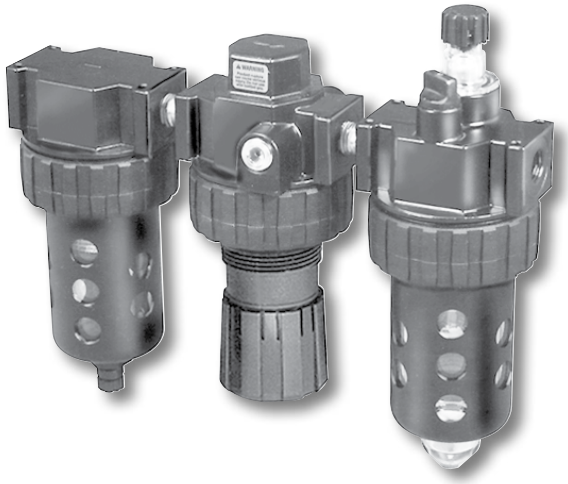
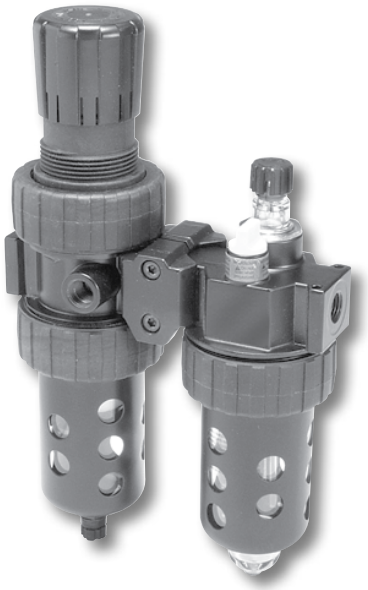




Air Preparation Units

Filters, Regulators, and Lubricators

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Parker

ENGINEERING YOUR SUCCESS.

Mist Lubricators

- Pipe Sizes 1/4 thru 1½ Inch
- Flows to 260 SCFM
- Pressures to 250 PSIG

Mist Air Lubricators are designed to provide lubrication for most general applications in a pneumatic system. Units should be installed close to the application ensuring effective distribution of oil to pneumatic components.

- Miniature 04L Series, 1/4 Inch
- Standard FL10 Stainless Series, 1/2 Inch
- Hi-Flow P3NL Series, 3/4, 1 and 1-1/2 Inch

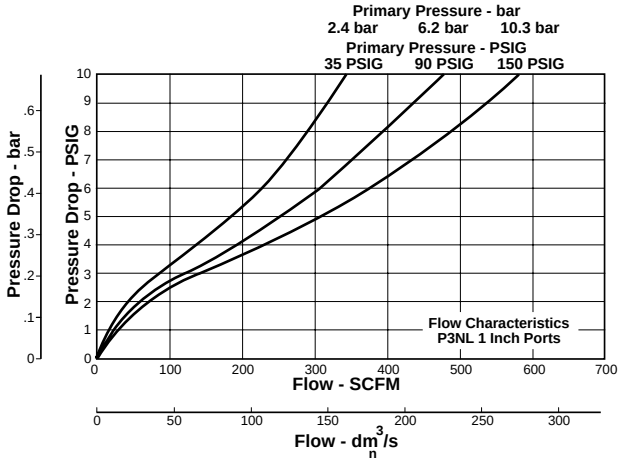
Lubricator Selection

1. Determine maximum system flow requirements.
2. Determine maximum allowable pressure drop at rated flow in SCFM.
3. Refer to flow chart and select lubricator by choosing the curve that offers minimum pressure drop at desired flow in SCFM.

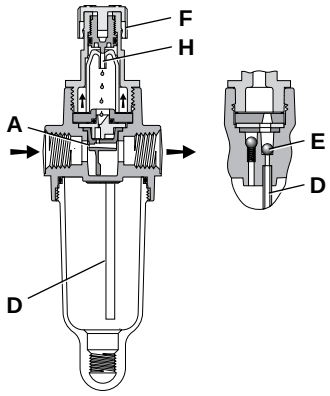
F442 Oil

Quantity	Part Numbers
1 Quart	F442001P
1 Gallon	F442002P
12 Quart Case	F442003P
4 Gallon Case	F442005P

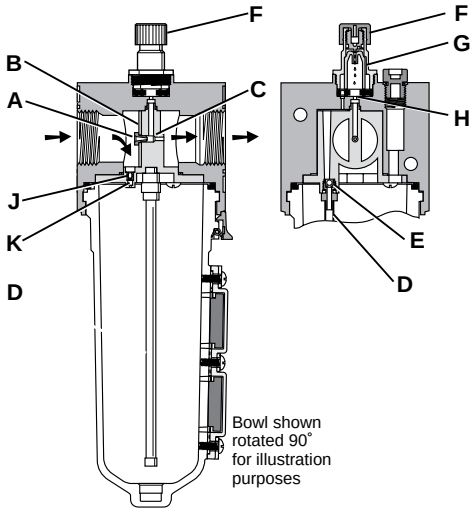
Reading Flow Charts to Size Mist Lubricators



Once the required flow is determined for a pneumatic application the lubricator can be selected by using the flow chart. To read the lubricator flow chart, first determine the inlet pressure that will be used. Find the appropriate pressure curve on the graph. Each graph will contain three pressure curves. If the required inlet pressure is not on the graph, interpolate a similar curve for the required pressure. Next, determine the acceptable pressure drop across the lubricator and locate it on the vertical axis. Find the intersection point of the acceptable pressure drop and the inlet pressure curve. At this point follow a vertical path downward to view the flow in SCFM.
If the flow is too low, select a larger port size or body size to give the required flow. If the flow is higher than necessary, select a smaller port size or body size to give the required flow.



04L



P3NL

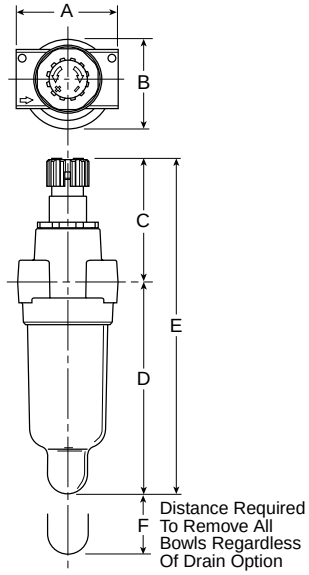
Air flowing through the unit goes through two paths. At low air flow rates, the majority of the air flows through venturi section **(A)**. The rest of the air slightly deflects and flows by the flapper **(B)**. The velocity of the air flowing through venturi section **(A)** creates a pressure drop at throat section **(C)**. This lower pressure allows oil to be forced from the reservoir through the pickup tube **(D)** past the check ball **(E)**, to the dome assembly where the rate of oil flow is controlled by metering screw **(F)**. Rotation of the metering screw **(F)** in the counterclockwise direction increases the oil flow rate; in the clockwise direction decreases the oil flow rate. Oil then flows through the clearance between inner and outer sight domes **(G)** where drops are formed and drip into the nozzle tube **(H)**. On the 09L, oil flows through the drip tube **(F)** where drops are formed and drip into the throat section **(C)**. Here it is then broken into fine particles and mixed with the swirling air to be carried to the venturi outlet where it joins the air by passing the flapper **(B)**. As air flow rate increases, the flapper **(B)**, deflects, allowing a greater part of the additional air to bypass the venturi section **(A)**. This assures the oil delivery rate increases linearly with increased air flow rate. The check ball **(E)** assures that when there is no oil flow the oil in the pickup tube does not return to the reservoir.

The bowl can be filled under pressure due to the action of the check ball **(J)**. When the fill cap is removed, air in the bowl escapes and pressure forces the check ball **(J)** to nearly seal at **(K)**. When the fill cap is replaced, the small amount of air flow past check ball **(J)** builds up pressure and together with the spring forces the check ball **(J)** off seat **(K)**, letting full line pressure into the bowl.

04L Mist Lubricators – Miniature

Features

- Proportional oil delivery over a wide range of air flows.
- Precision needle valve assures repeatable oil delivery and provides simple adjustment of delivery rate.
- Ideal for low and high flow applications with changing air flow.
- Transparent sight dome for 360° visibility.
- High Flow: 1/4" – 20 SCFM§



Port Size	NPT	
	Twist Drain	No Drain
Poly Bowl ‡		
1/4"	—	04L10G*
Metal Bowl without Sight Gauge		
1/4"	04L13G*	—

‡ For polycarbonate bowl and sight dome, see Caution on page 2.

§ SCFM = Standard cubic feet per minute at 90 PSIG inlet and 5 PSIG pressure drop.

04L Lubricator Dimensions		
A 1.73 (44)	B 1.56 (40)	C 2.16 (55)
D 3.64 (92)	D† 3.78 (96)	E 5.80 (147)
E† 5.94 (151)	F 1.60 (41)	

Inches (mm)

† With Twist Drain.

Ordering Information

04L	1	0	G	*	—

Port Size
1 1/4 Inch

Bowl Options

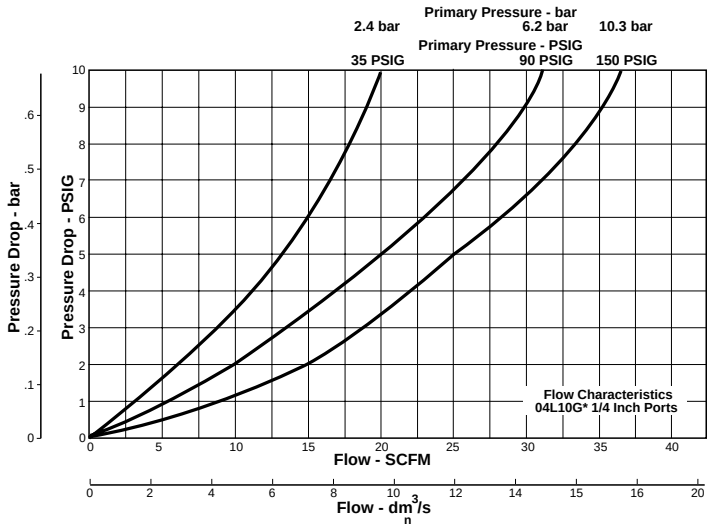
Polycarbonate Bowl	Metal Bowl
0 Without Drain	3 Twist Drain

Body
G Without Tamperproof Cap. No Fill Plug

Engineering Level
* Will be Entered at Factory

Port Type
Blank NPT

Technical Information



04L Mist Lubricator Kits & Accessories

Bowl Kits –

Poly Bowl – No Drain PS421P

Metal Bowl – Twist Drain (No Sight Gauge) PS447BP

Mounting Bracket Kit PS419

Oil – 1 Gal. F442002P
12 Quart Case F442003P
4 Gallon Case F442005P

Specifications

Bowl Capacity .....1 Ounce

Minimum Flow for Lubrication .....0.5 SCFM at 100 PSIG

Port Threads ..... 1/4 Inch

Pressure & Temperature Ratings –

Polycarbonate Bowl – 0 to 150 PSIG (0 to 10.3 bar)
32°F to 125°F (0°C to 52°C)

Metal Bowl – 0 to 250 PSIG (0 to 17.2 bar)
32°F to 175°F (0°C to 80°C)

Suggested Lubricant – .....F442 Oil
Petroleum based oil of 100 to 200 SSU viscosity at 100°F and an aniline point greater than 200°F (DO NOT USE OILS WITH ADDITIVES, COMPOUNDED OILS CONTAINING SOLVENTS, GRAPHITE, DETERGENTS, OR SYNTHETIC OILS.)

Weight .....0.4 lb. (0.18 kg)

Materials of Construction

Body ..... Zinc

Bowls – Transparent .....Polycarbonate
Metal (Without Sight Gauge) ..... Zinc

Drains – Twist – Body & Nut.....Plastic

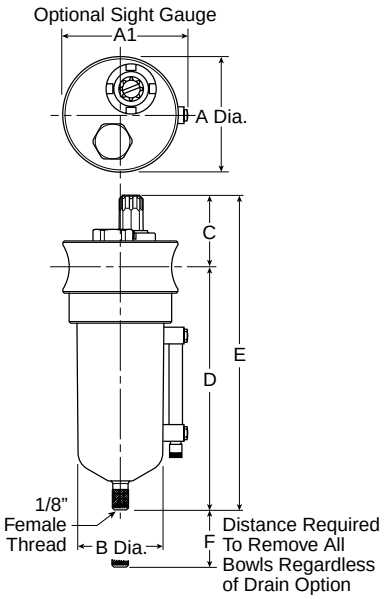
Seals .....Nitrile

Sight Dome .....Polycarbonate

FL10 Lubricator – Standard

Features

- Stainless Steel Construction Handles Most Corrosive Environments
- 1/8" Female Threaded Drain
- Fillable Under Pressure
- Meets NACE Specifications MR-01-75/ISO 15156
- High Flow: 1/2" - 100 SCFM §



Port Size	NPT	
	Metal Bowl Without Sight Gauge	Metal Bowl With Sight Gauge
1/2"	FL10-04DSS	FL10-04WSS

Standard part numbers shown bold. For other models refer to ordering information below.

§ SCFM = Standard cubic feet per minute at 90 PSIG inlet and 5 PSIG pressure drop.

FL10 Lubricator Dimensions		
A 2.38 (60)	**A1** 2.50 (64)	**B** 1.75 (44)
C 1.81 (46)	**D** 5.00 (127)	**E** 6.81 (173)
F 3.50 (89)		

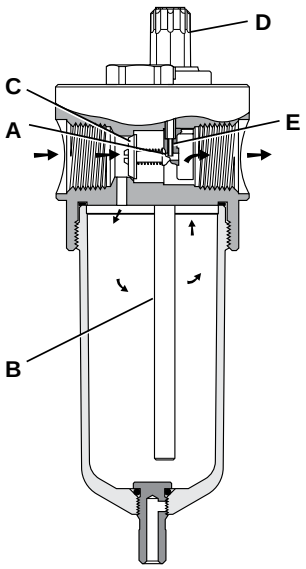
inches (mm)

Ordering Information

FL10	-	04	W	SS

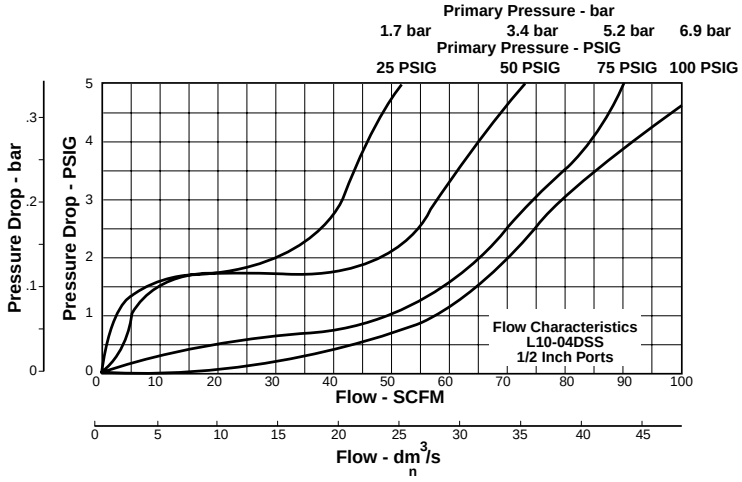
Port Type	Port Size	Bowl	Material
- NPT	04 1/2 Inch	D Metal Bowl without Sight Gauge W Metal Bowl with Sight Gauge	SS Stainless Steel

Operation



Air flowing through the unit goes through two paths. At low flow rates the majority of the air flows through the Venturi section **(A)**. The rest of the air opens the check valve **(C)**. The velocity of the air flowing through the Venturi section **(A)** creates a pressure drop. This lower pressure allows the oil to be forced from the reservoir through the pickup tube **(B)** and travels up to the metering screw **(D)**. The rate of oil delivery is then controlled by adjusting the metering screw **(D)**. Oil flows past the metering screw **(D)** and forms a drop in the nozzle tube **(E)**. As the oil drops through the dome **(F)** and back into the Venturi section **(A)**, it is broken up into fine particles. It is then mixed with the air flowing past the check valve **(C)** and is carried downstream. As the air flow increases the check valve **(C)** will open more fully. This additional flow will assure that the oil delivery rate will increase linearly with the increase of air flow.

Technical Information



FL10 Lubricator Kits & Accessories

Drain Kit –
Manual Twist Drain SA600Y7-1SS

Pipe Nipple –
1/2" 316 Stainless Steel 616A28-SS

Sight Dome Kit RKL10SS

Specifications

Bowl Capacity ..... 4.0 Ounces

Port Threads ..... 1/2 Inch

Pressure & Temperature Ratings –
Metal Bowl (D) ..... 300 PSIG Max (20.7 bar)
0°F to 150°F (-18°C to 66°C) Auto Drain Ratings

Metal Bowl (W) ..... 0 to 250 PSIG (0 to 17.2 bar)
0°F to 150°F (-18°C to 66°C)

Note: Air must be dry enough to avoid ice formation at temperatures below 32°F (2°C).

Weight ..... 1.9 lb. (0.85 kg)

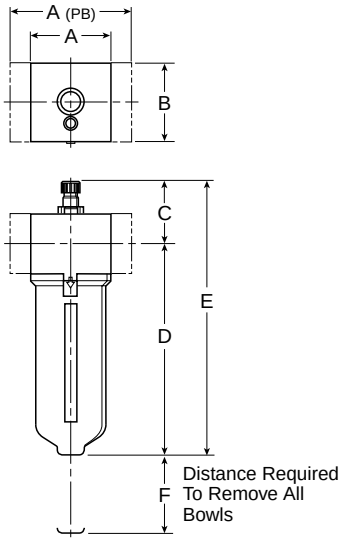
Materials of Construction

Body ..... 316 Stainless Steel
Bowl ..... 316 Stainless Steel
Dip Tube ..... 316 Stainless Steel
Drain ..... 316 Stainless Steel
Fill Plug ..... 316 Stainless Steel
Seals ..... Fluorocarbon
Sight Dome ..... Nylon
Sight Gauge ..... Isoplast

P3NL Mist Lubricators – Hi-Flow

Features

- Port blocks (PB) available to provide 1½" port extension to 1" ported bodies.
- Proportional oil delivery over a wide range of air flows.
- Bowl can be filled while air line is under pressure.
- Transparent sight dome for 360° visibility.
- High Flow: 3/4" – 240 SCFM§
  1" – 250 SCFM§
  1½" – 260 SCFM§



Port Size	NPT
	No Drain
Metal Bowl / Sight Gauge	
3/4"	P3NLA96LSN
1"	P3NLA98LSN
1½" #	P3NLA9PLSN

1" Port Body with 1-1/2" Port Block.

§ SCFM = Standard cubic feet per minute at 90 PSIG inlet and 5 PSIG pressure drop.

P3NL Lubricator Dimensions		
A 3.62 (92)	APB 5.91 (150)	B 3.62 (92)
C 2.81 (71)	D 9.00 (229)	E 11.81 (300)
F 4.92 (125)		

Inches (mm)

Ordering Information

P3N	L	A	9	8	L	S	N

Design Level

Port Type
9 NPT Female

Note: 3/4 & 1 inch meet ISO 1179-1 Standard.

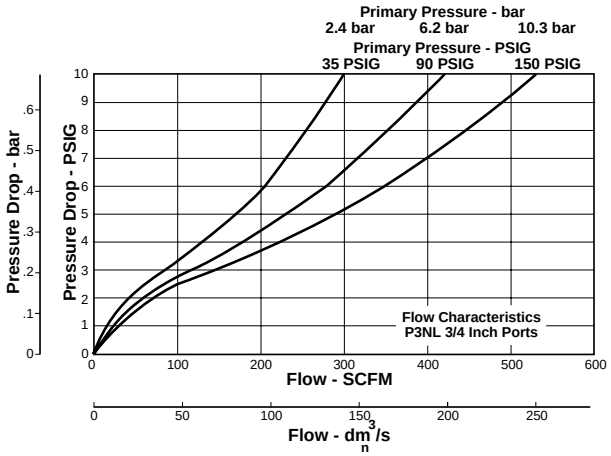
Port Size
6 3/4" (w/o Port Blocks)
8 1" (w/o Port Blocks)
P 1-1/2" Port Blocks (w/ 1" Ported Body)

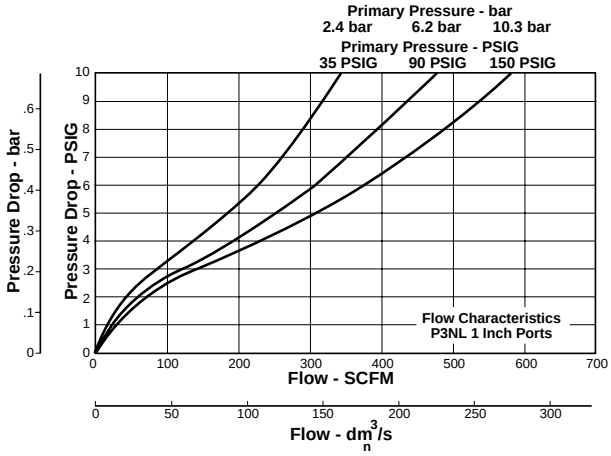
Type
Oil Mist
L w/ Polycarbonate Sight Dome

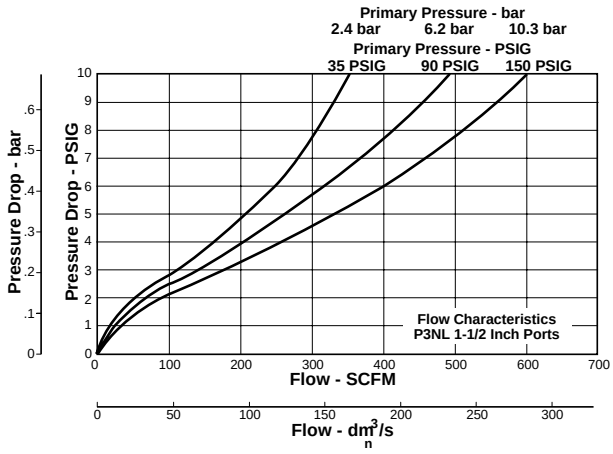
Bowl
S Metal Bowl w/ Sight Gauge

Drain / Fill Device
N No Drain, Solid Bowl / Fill Plug

Technical Information







P3NL Lubricator Kits & Accessories

Adjustment Knob P04121

Bowl Kits –
Metal Bowl – Sight Gauge / Twist Drain P3NKA00BSM
Metal Bowl – Sight Gauge / No Drain P3NKA00BSN

Bowl Latch Kit C11A33

Drain Kit – Twist Drain PS512P

Fill Cap Kit P3NKA00PL

Sight Dome Kit – Polycarbonate PS740P
Nylon PS740N

Sight Gauge Kit P3NKA00PE

Pressure Fill Adapter Kit P3NKA00PK

Service Kit P3NKA00RL

Mounting Bracket Kit* P3NKA00MW

Oil – 1 Gal. F442002P
12 Quart Case F442003P
4 Gallon Case F442005P

Specifications

Bowl Capacity ..... 18.0 Ounces

Minimum Flow for Lubrication ..... 6.6 SCFM at 100 PSIG

Pressure & Temperature Rating ..... 0 to 250 PSIG (0 to 17.2 bar)
32°F to 175°F (0°C to 80°C)

Suggested Lubricant ..... F442 Oil

Petroleum based oil of 100 to 200 SSU viscosity at 100°F and an aniline point greater than 200°F

(DO NOT USE OILS WITH ADDITIVES, COMPOUNDED OILS CONTAINING SOLVENTS, GRAPHITE, DETERGENTS, OR SYNTHETIC OILS.)

Weight – 3/4 Inch ..... 3.5 lb. (1.6 kg)
1 Inch ..... 3.5 lb. (1.6 kg)
1-1/2 Inch† ..... 4.6 lb. (2.1 kg)

Materials of Construction

Body, Bowl ..... Aluminum

Drains: Twist Drain (Optional) ..... Plastic

Injector Meter Block & Base Assembly ..... Plastic

Seals ..... Nitrile

Sight Dome ..... Polycarbonate

Sight Gauge ..... Polyamide (Nylon)

† 1" Port Body with 1-1/2" Port Block.