Numatics **FLEXIBLOK**® FRL Series

PARTICULATE FILTER F14B, F22B, F32B Series

F32B-06 pictured

Application

Primary air filters are designed to separate liquid, water, rust, pipe scale, and debris from air lines. They should be installed upstream of the regulator and/or lubricator to prevent contamination from reaching other components.

Water is removed mechanically by the deflector which causes the air to move in a swirling motion. The condensed water droplets are then centrifugally impounded upon the ID of the bowl then fall down past the quiet zone baffle to the water sump. The air then passes through the sintered element utilizing depth filtration and removes debris down to a 5 micron size.

Features

- Three convenient sizes
- 5 micron sintered elements standard
- Can be installed as modular or individual unit
- Includes screws and o-rings for modular connection
- Manual or automatic drain
- Polycarbonate bowl standard
- Optional metal bowl with sight glass
- Optional **CircleVision™** sight bowl
- Bowl seal held captive (22 and 32 Series)

Specifications

	Polycarbonate Bowl	CircleVision™ Bowl	Metal Bowl
Temperature Range (°F)	40-120	40-120	40-120
Temperature Range (°C)	4-50	4-50	4-50
Max. Pressure (PSIG)	150	250	200
Max. Pressure (BAR)	10	17	14
14 Series (Weight, lbs.)	.60	-	.65
14 Series (Weight, kg)	.28	-	.30
22 Series (Weight, lbs.)	.65	.86	1.25
22 Series (Weight, kg)	.30	.39	.57
32 Series (Weight, lbs.)	1.3	1.7	2.5
32 Series (Weight, kg)	.59	.77	1.14

How to Order

F 22 B - 04 AC

Model:
F = Filter

Series:
14 = 1.5 oz bowl
22 = 3.8 oz bowl
32 = 8.5 oz bowl

Element:
B = 5 micron element

Threads:
- = NPTF
G = G tap (BSPP)
R = PT (BSPT)

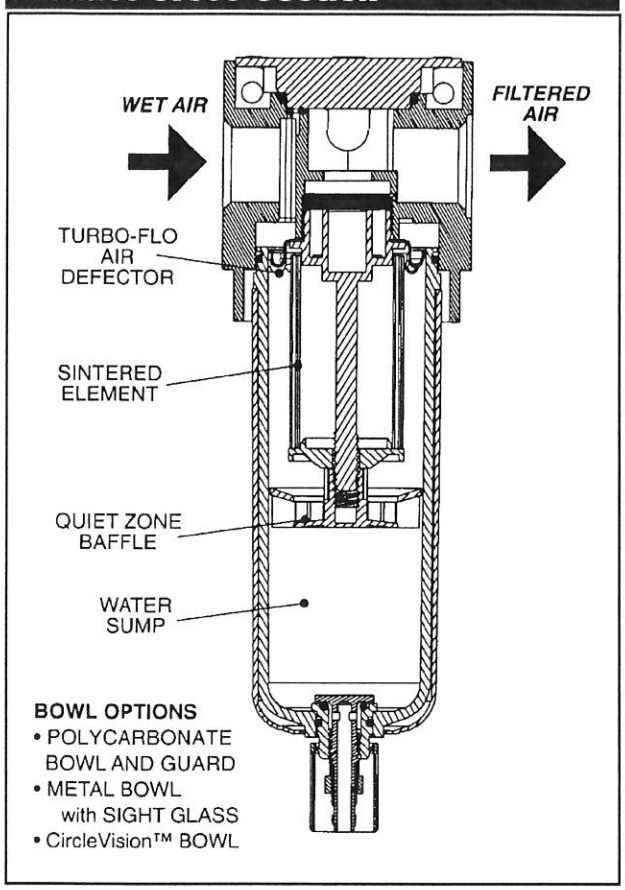
Port Size:
01 = 1/8 (14 series only)
02 = 1/4 (14 or 22 series only)
03 = 3/8 (22 series only)
04 = 1/2 (22 or 32 series only)
06 = 3/4 (32 series only)

Options (see pg 101):
A = auto drain (22 and 32 series)
B = flexible drain
C = CircleVision™ Sight Bowl (22 and 32 series)
J = external pulse drain
M = metal bowl with sight glass
Q = metal manual drain
R = manual lever drain
U = Δp indicator

NEED MORE PARTS AND INFORMATION?

- **See page 119 for information on ordering replacement filters, bowls, etc.**
- **See page 101 for more information on available options.**

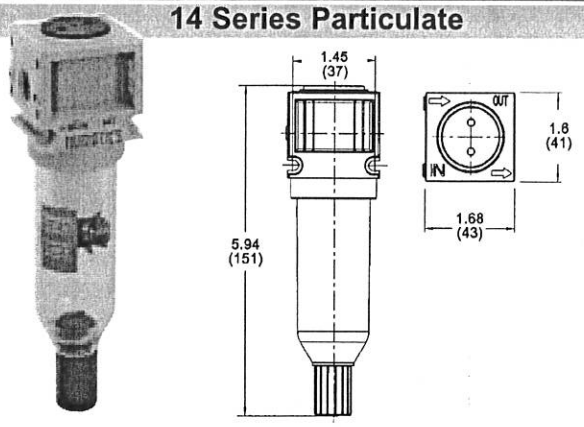
Product Cross Section



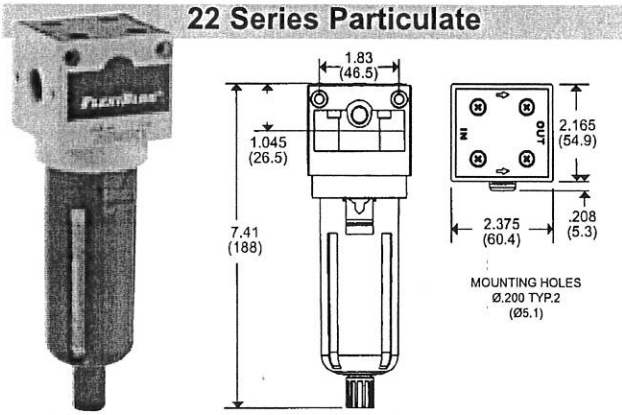
Dimensions

Dimensions in inches (millimeters in parenthesis)

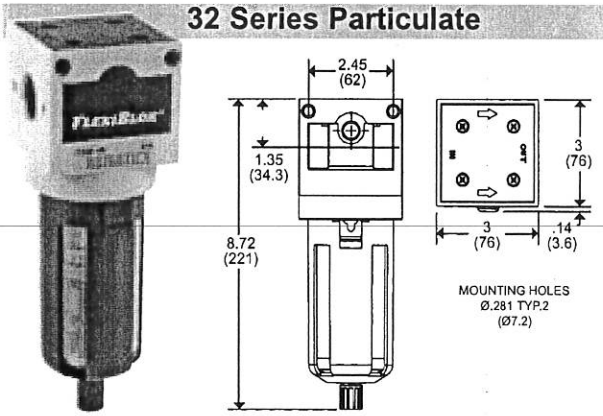
14 Series Particulate



22 Series Particulate



32 Series Particulate



Notes

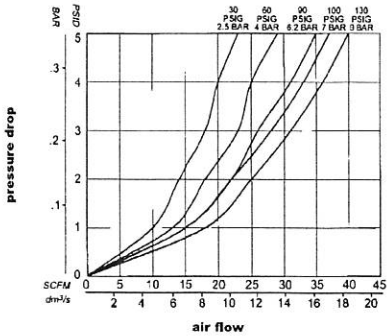
Maintenance Flush piping before installation. To maintain maximum efficiency of the filter and to avoid excessive pressure drop the filter must be kept clean. On standard filters, open the drain (turn counter-clockwise for standard drain models) periodically to expel contents of bowl before it reaches the level of the lower baffle.

Cleaning Removal from operation is not necessary to clean the filter. Disassembly is simple and can be performed inline. Before disassembling, shut off air supply and depressurize the filter. Clean all parts (except the filter element) with household soap and blow out filter body before reassembling.

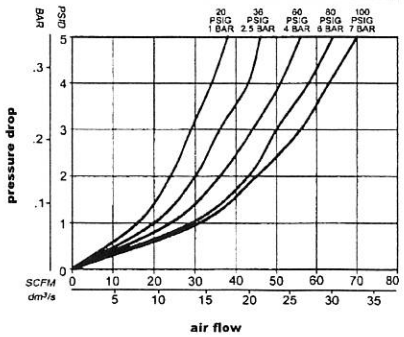
Element Replacement Elements should be replaced after a pressure drop of 10 PSID has been reached or after 1 year, whichever occurs first.

Flow Rates

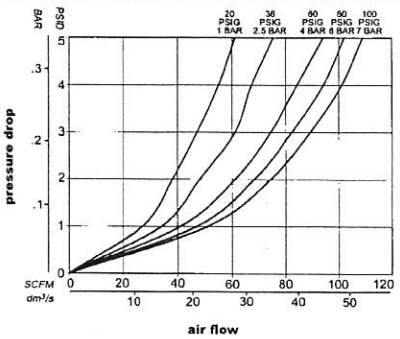
F14B-02 (5 micron particulate)



F22B-04 (5 micron particulate)



F32B-06 (5 micron particulate)



Numatics **FLEXIBLOK**® FRL Series

LUBRICATOR L14L, L22L, L32L Series

L32L-04 pictured

ANSI SYMBOL

Application

Usually mounted third in the FRL Series, the lubricator is designed to inject oil aerosols into the airstream of a pneumatic circuit. As air flows from the regulator, some air is diverted from the main orifice and is allowed to flow through the fill under pressure bleed assembly and pressurize the bowl. This forces oil up the siphon tube past a flow check and into the integral valve/sight dome. The oil film then drops through the valve and into the atomization chamber at a rate that is automatically proportional to the air flow. This virtually eliminates the need for readjustment. The Numatics lubricator can begin delivering lubrication at flows less than 2 SCFM.

Features

- Three convenient sizes
- Lubrication to begin at less than 2 SCFM
- Can be filled under pressure (22 and 32 series only)
- Tamper-resistant knob standard
- Optional CircleVision™ sight bowl
- Optional metal bowl with sight glass
- Can be mounted as individual or modular unit
- Button head fill optional on all sizes
- Atomizing chamber develops longer life aerosols

Specifications

	14 Series	22 Series	32 Series
Temperature Range (°F)	40-120	40-120	40-120
Temperature Range (°C)	4-50	4-50	4-50
Max. Pressure (PSIG)	200	200	200
Max. Pressure (BAR)	14	14	14
Weight (lbs.)	.60	.69	1.37
Weight (kg)	.27	.31	.62
body material	zinc	aluminum	aluminum

Finding the Proper Lubricant

The proper lubrication of air tools, valves, cylinders, motors, etc. requires the use of an oil that is specifically recommended for use in air line lubricators. An air line lubricant is often subjected to very adverse conditions - high temperatures, dirty air, and oxidation caused by flowing air are just a few. Pneumatic devices are likely subjected to these same conditions in addition to sitting idle for long periods of time. Unless the oil has superior oxidation stability and high film strength, it will blow off the surfaces to be oiled leaving a tacky residue known as 'varnish'.

An important criterion is viscosity. If an oil is too heavy, it will not be atomized and carried downstream to the component requiring lubrication. Often it will reclassify in the pipe. While it is impossible to guarantee the success of any lubricating oil because of the variables, oils having the following characteristics usually perform quite well:

- Viscosity: 100-150 SUS at 100°F
- High viscosity index: over 90
- Superior oxidation stability as determined by ASTM test D943: over 2000
- Anti-foaming
- High film strength
- Compatible with Buna N rubber
- Aniline range: 180-210

A lubricant that works well is Mobil D.T.E.® Light Lubricating Oil from Mobil Chemical company. This oil meets all of the foregoing specifications. Many other good lubricants are available. Consult your Numatics representative for his recommendations.

How to Order

L 22 L - 02 CF

Model:
L = Lubricator

Series:
14 = 1.5 oz. bowl
22 = 3.8 oz. bowl
32 = 8.5 oz. bowl

Style:
L = Standard Lubricators

Threads:
- = NPTF
G = G tap (BSPP)
R = PT (BSPT)

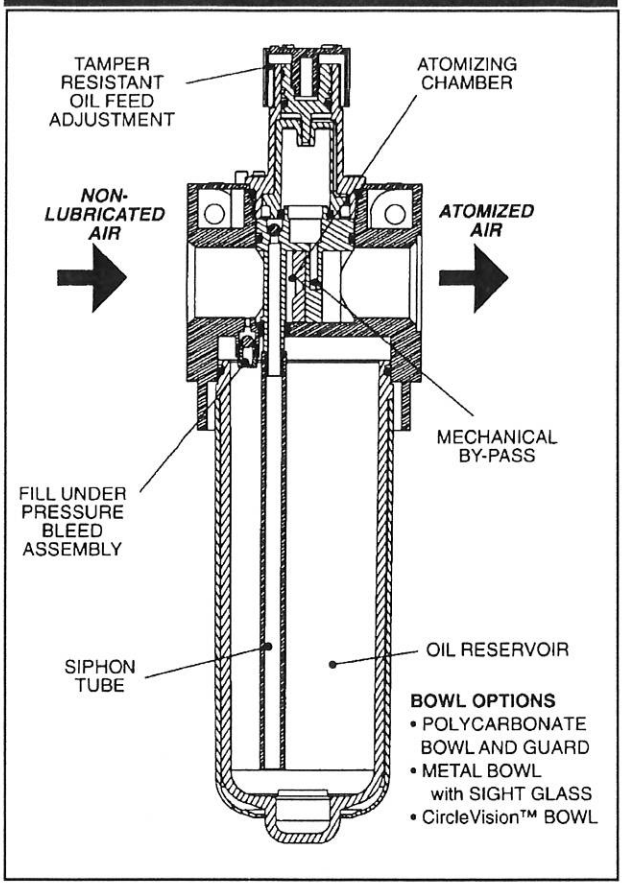
Port Size:
01 = 1/8 (14 series only)
02 = 1/4 (14 or 22 series only)
03 = 3/8 (22 series only)
04 = 1/2 (22 or 32 series only)
06 = 3/4 (32 series only)

Options (see pg 101):
C = CircleVision™ sight bowl (22 and 32 Series only)
F = button head fill
K = drain on bowl
M = metal bowl with sight glass

NEED MORE PARTS AND INFORMATION?

- **See page 119 for information on ordering replacement filters, bowls, etc.**
- **See page 101 for more information on available options.**

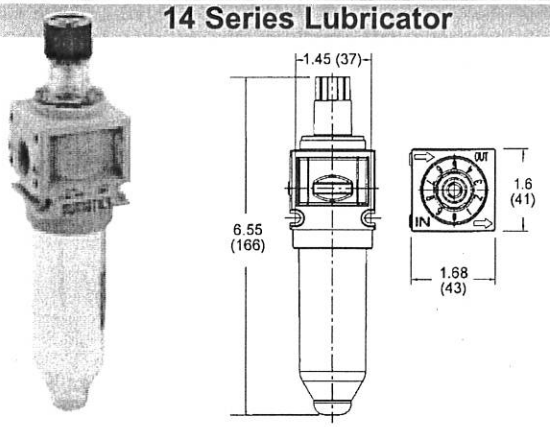
Product Cross Section



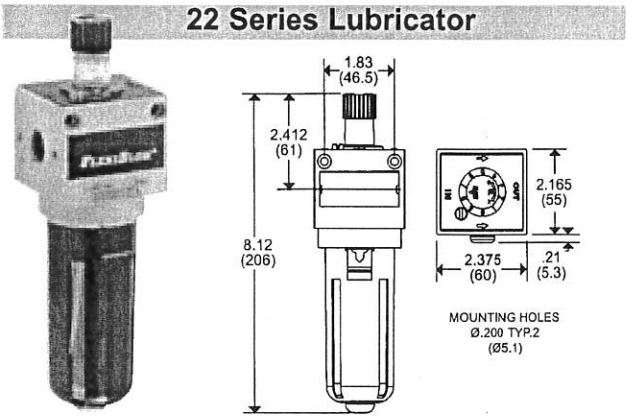
Dimensions

Dimensions in inches (millimeters in parenthesis)

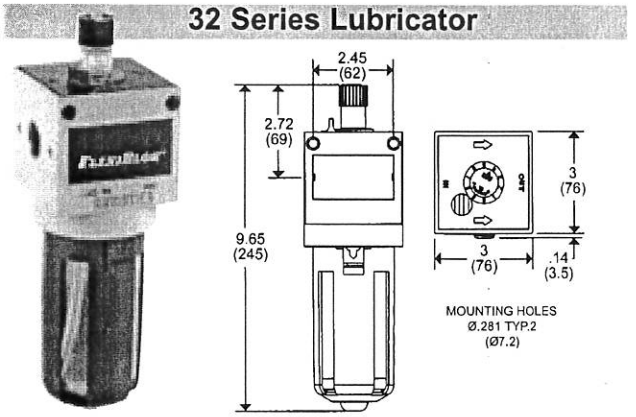
14 Series Lubricator



22 Series Lubricator



32 Series Lubricator



Notes

Filling 22 and 32 Series lubricators may be filled while under pressure and without shutting down equipment. An oil can with a long spout must be used in order to fill through the fill port. Slowly remove fill plug and insert tip of spout to bottom of fill port recess or oil blow back may occur. Fill to within 1" from the top of the bowl. Lubricators may also be filled through the button head fill.

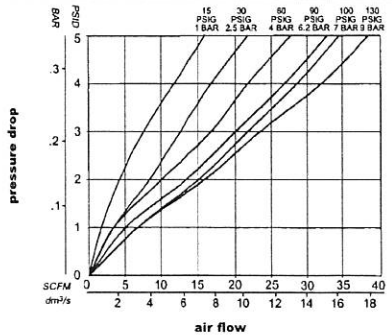
Adjustment To adjust oil drip rate, turn on the air, start flow, and set knob to obtain the desired drip rate (visible through the sight dome). As a start, one or two drops per minute is suggested, correct lubrication being a matter of experience and demand. Clockwise rotation of knob decreases oil feed rate. To check lubrication, hold thumbnail or a mirror near the equipment exhaust. A heavy film indicates over-lubrication and the drip rate should be reduced by turning the knob to a lower setting.

Maintenance If both air and oil are kept clean and the oil level never allowed below the end of the siphon tube in the bowl, the lubricator should provide long, unattended service. When oil stops dripping through the sight dome, irrespective of knob adjustment, it is indicative of necessary cleaning.

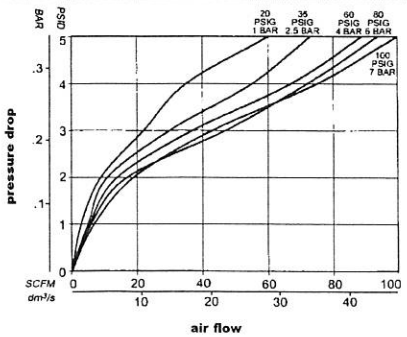
Cleaning It is not necessary to remove the lubricator from the line to clean. First, depressurize and disassemble the unit. In most cases, cleaning is only needed in the oil metering area. Pull off the adjusting knob and unscrew the sight dome assembly, then remove the inner drip spout and clean with household soap. *Plastic bowls must be cleaned with household soap only.*

Flow Rates

L14L-02 (14 Series Lubricator)



L22L-04 (22 Series Lubricator)



L32L-06 (32 Series Lubricator)