

## INTRODUCTION TO CONSTANT LEVEL LUBRICATION

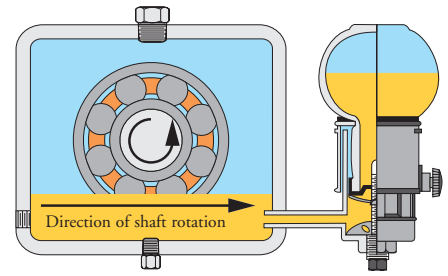
Constant level oilers are designed to maintain a predetermined oil level in a sump, which is necessary for proper lubrication. If the oil level were to drop below this point, the depleted oil would automatically be replenished by the lubricator, returning it to its original level. With the use of constant level oilers, maintenance efficiencies can be increased, while minimizing maintenance costs, and the loss of production time.

The majority of constant level oilers available are adjustable, allowing for use in many applications. However, there are oilers available that do not allow for fluid level adjustability, eliminating potential installation errors. Typically, constant level oilers are mounted on the side of the equipment facing the direction of shaft rotation. Some oilers allow for bottom mounting, on the oil sump, which prevents the oiler from misfeeding during applications that contain currents and turbulence formed by slinger rings, discs, and high rotating speeds.

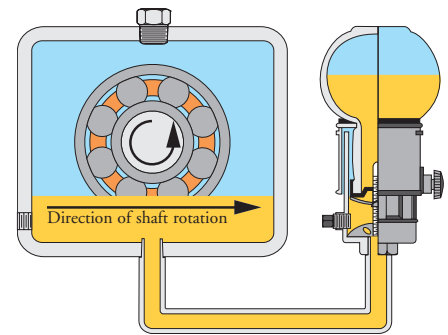
In most cases constant level oilers are vented to the outside atmosphere to work properly. Since these oilers are vented to the atmosphere, especially in harsh, dirty environments, contaminants are allowed to enter the lubricating oil. These contaminants are in the forms of moisture and/or particulate which are extremely damaging to oil and equipment life.

In order to combat the potential for oil contamination, the closed system oiler was developed. These oilers are effective in minimizing and eliminating the ingress of contaminants into the oil sump, especially in dirty environments. Some closed system oilers contain a pressure balancing line, which is connected from the headspace of the oil sump to an air chamber built into the surge body of the oiler. This air chamber is sealed from the outside atmosphere in order to prevent the ingress of contaminants. Additional types of closed system oilers are available that mount directly on the centerline of the oil level to be maintained. The exchange of air between the oil sump and the oiler is at the oilers base, which is mounted directly to the oil sump.

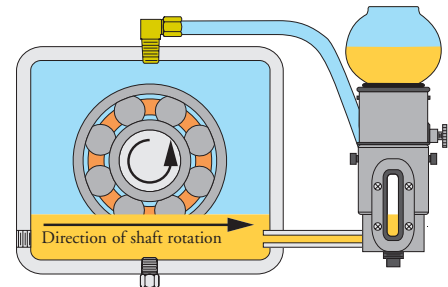
Several different types of constant level oilers are available to meet specific application needs, whether it is vented or non-vented, adjustable or nonadjustable they are an easy and effective method of maintaining proper oil level in equipment.



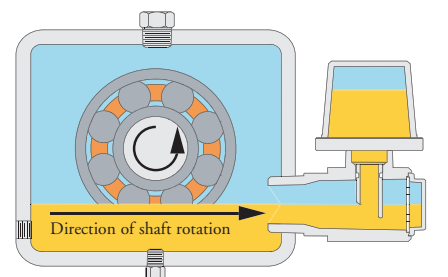
Vented constant level oiler with side connection



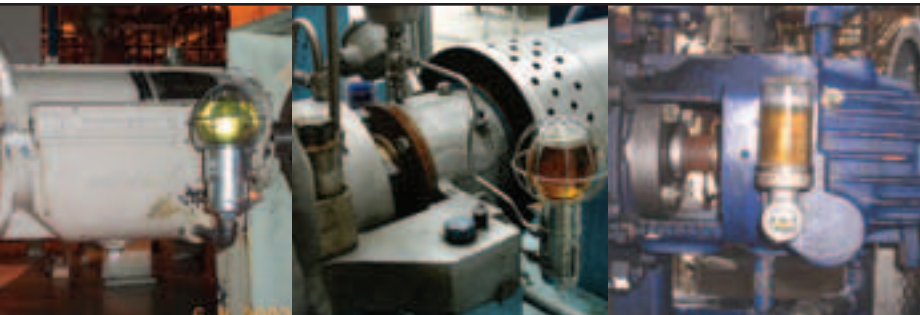
Vented constant level oiler with bottom connection



Closed system oiler with pressure balancing line



Closed system oiler mounted on center line of desired oil level



# OPTO-MATIC® CONSTANT LEVEL OILERS



## APPLICATIONS

Opto-Matic® Oilers provide an inexpensive method to automatically maintain a constant level of oil in a pump bearing housing, gear box, or other oil sump applications. Throughout processing industries, the Opto-Matic Oiler is the industry standard. Different reservoir capacities allow use in many applications.

Stainless steel models provide long life in corrosive environments in the chemical, pulp and paper, and mining industries.

## FEATURES

- One piece glass reservoir ensures proper constant level function. Compared to competitive models, there is no possibility of air leakage that would cause overflowing of the bearing housing.
- Adjustable level setting allows use in many applications
- Multiple air vent slots provide for proper functioning at all times
- Large surge chamber helps prevent overflow of oil during machine start-up or shut-down
- Side and bottom connections for simplified installation

## WIRE GUARDS

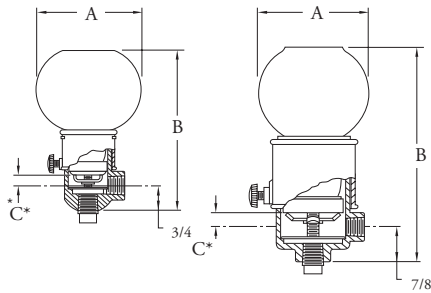
Wire guards are ordered separately and are customer installed.

Model No. Standard	Model No. Stainless Steel	Description
30012	-	2-1/2 oz. Guard
30013	30223	4 oz. Guard
30016	30225	8 oz. Guard
30020	30230	16 oz. Guard

## SPECIFICATIONS

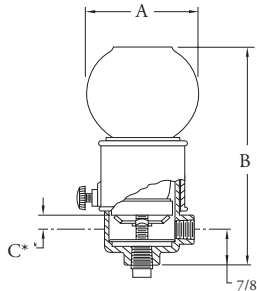
	Standard	304 Stainless Steel
Max. Operating Temp.	250°F Continuous	
Reservoir	One-Piece Glass Bottle	
Casting	Zinc	304 Stainless
Finish	Zinc/Chromate Plate	Passivated
Internal Parts	Zinc Plated Steel	
O-Ring	Viton®	

Viton® is a registered trademark of Du Pont Dow Elastomers.



No. 30002 Standard

No. 30003, 30005, and 30010 Standard



Connection Side and Bottom Stainless Steel

\* "C" dimensions represent oil level range

## SELECTION CHART - STANDARD

Model No.	Capacity	Connection (NPT)*	Dimensions (in.)				
			A	B Min.	B Max.	C Min.	C Max.
30002	2-1/2 oz.	1/4	2-1/2	3-15/16	4-1/4	11/32	9/16
30003	4 oz.	1/4	2-11/16	5	5-3/4	9/32	1
30005	8 oz.	1/4	3-3/16	5-15/16	6-11/16	9/32	1
30010	16 oz.	1/4	4-1/8	6-13/16	7-9/16	9/32	1

\* Metric thread sizes available. Add "-M" to part number for 1/4 BSPT connection port.

## SELECTION CHART - STAINLESS STEEL

Model No. With Side & Bottom Connect	Capacity	Connection (NPT)*	Dimensions (in.)				
			A	B Min.	B Max.	C Min.	C Max.
30213	4 oz.	1/4	2-11/16	4-15/16	5-11/16	9/32	1
30215	8 oz.	1/4	3-3/16	5-7/8	6-5/8	9/32	1
30220	16 oz.	1/4	4-1/8	6-3/4	7-1/2	9/32	1

\* Metric thread sizes available. Add "-M" to part number for 1/4 BSPT connection port.

See Spectrum Opto-Matic Collars in the Storage, Handling & Identification section for color coding options.



# OPTO-MATIC® CONSTANT LEVEL OILERS

## APPLICATIONS

Opto-Matic® Oilers provide a constant level of oil in a pump bearing housing, gear box, or other oil sump applications. Different reservoir capacities allow use in many applications.

“LS”, “EH”, and “EHB” models have a large surge chamber to minimize potential of leakage during oil surge conditions.

## FEATURES

- High strength, transparent, ribbed plastic reservoir provides long life and impact resistance
- Adjustable level setting allows use in many applications
- Multiple air vent slots provide for proper functioning at all times
- Large surge chamber (LS, EH, and EHB models) prevents overflow of oil during machine start-up or shut-down
- Side and bottom connections for simplified installation



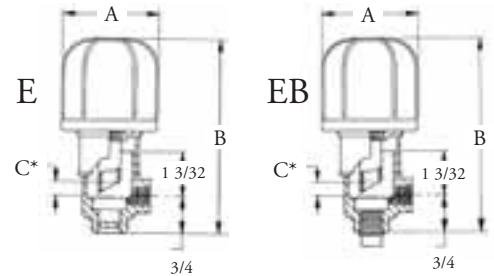
## SPECIFICATIONS

<b>Max. Operating Temp.</b>	165°F Continuous
<b>Reservoir</b>	Butyrate Plastic
<b>Casting</b>	Zinc Die Cast
<b>Finish</b>	Bright Zinc Plated
<b>Internal Parts</b>	Zinc Plated Steel

## SELECTION CHART - E, EB

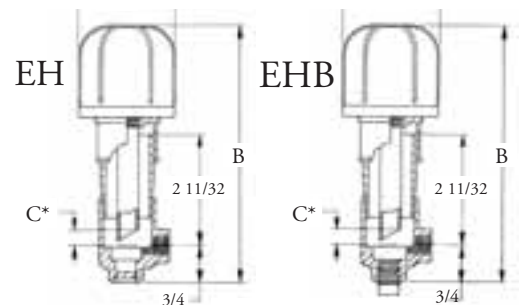
Model No.		Capacity	Connection (NPT)*	Dimensions (in.)				
E	EB			A	B Min.	B Max.	C Min.	C Max.
30052	30062	2 oz.	1/4	1-15/16	3-7/8	4-3/8	1/4	3/4
30054	30064	4 oz.	1/4	2-5/16	4-9/16	5-1/16	1/4	3/4
30058	30068	8 oz.	1/4	2-5/8	5-11/16	6-3/16	1/4	3/4

\* Metric thread sizes available. Add “-M” to part number for 1/4 BSPT connection port.



## SELECTION CHART - EH, EHB (large surge chamber)

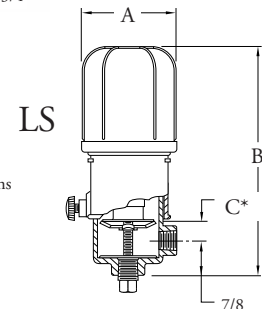
Model No.		Capacity	Connection (NPT)*	Dimensions (in.)				
EH	EHB			A	B Min.	B Max.	C Min.	C Max.
30072	30082	2 oz.	1/4	1-15/16	5	5-1/2	1/4	3/4
30074	30084	4 oz.	1/4	2-5/16	5-11/16	6-3/16	1/4	3/4
30078	30088	8 oz.	1/4	2-5/8	6-13/16	7-5/16	1/4	3/4



## SELECTION CHART - LS (large surge chamber)

Model No.	Capacity	Connection (NPT)*	Dimensions (in.)				
			A	B Min.	B Max.	C Min.	C Max.
30024	4 oz.	1/4	2-5/16	5-7/16	6-3/16	9/32	1
30028	8 oz.	1/4	2-5/8	6-9/16	7-5/16	9/32	1

\* Metric thread sizes available. Add “-M” to part number for 1/4 BSPT connection port.



\* “C” dimensions represent oil level range

See Spectrum Opto-Matic Collars in the Storage, Handling & Identification section for color coding options.



## BREATHER TUBES

Breather tubes are accessories used in conjunction with vented Opto-Matic® Oilers to help eliminate vacuums created by abnormally tight bearings or pressures created by high speed bearings. The breather tube helps maintain a constant atmospheric pressure in the bearing housing.

### SELECTION CHART

Model No.	Description	
30014	Type "C"	1/8 NPT Thread Wick Filter
30015	Type "E"	1/8 NPT Thread Dust Cap

Breather tubes are available for customer installed vent ports in bearing housing or piping lines.

### HELPFUL TIP:

- ✦ Breather tubes are ideal for use in environments that contain minimal contaminants. If contamination is a concern the Watchdog Desiccant Breathers are an excellent choice for removing contaminants as well as allowing the equipment to breathe.



# LCL OILERS

## APPLICATIONS

LCL large capacity oilers provide a constant level of oil in a pump bearing housing, gear box, or other oil sump applications. They operate on the same principle as the Opto-Matic® Oilers and are used in applications requiring a large reservoir capacity.

In isolated areas where refilling is a problem, LCL oilers can save time and maintenance costs.

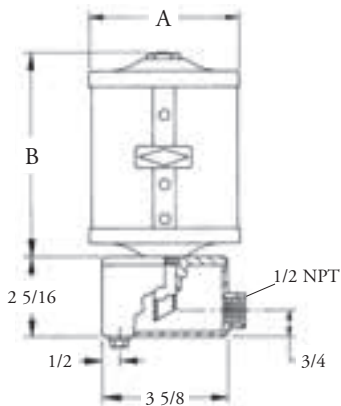


## FEATURES

- Large capacity glass or acrylic reservoir to 2-1/2 quarts, acrylic reservoir available in 1 gallon
- Factory set oil level at center line of side outlet allows easy installation
- Specially designed feed tube to ensure reliable lubricant delivery
- Large surge chamber prevents overflow of oil during machine start-up or shut-down
- Side connection of 1/2 NPT makes for durable and rigid installation. Mounting bolt (1/4-20) provided for attachment to support bracket

## SPECIFICATIONS

<b>Max. Operating Temp.</b>	Glass 250°F Continuous Acrylic 165°F Continuous
<b>Reservoir</b>	Heavy Wall Heat Resistant Glass Heavy Wall Acrylic Plastic
<b>Gasket</b>	Buna-N
<b>Materials</b>	Brass
<b>Casting</b>	Aluminum Sand Casting
<b>Finish</b>	Lacquered Satin Finish



## SELECTION CHART

Model No.		Capacity	Mounting Bolt	Dimensions (in.)	
Glass	Acrylic			A	B
32511	32410	10 oz.	1/4-20	3-1/8	4-1/4
32517	32416	1 pt.	1/4-20	3-5/8	5-5/16
32533	32432	1 qt.	1/4-20	4-7/16	6-3/8
32581	32480	2.5 qt.	1/4-20	5-11/16	9-1/2
-	32481	1 gal.	1/4-20	5-11/16	14-1/2

### HELPFUL TIP:

✦ The LCL oiler is a vented oiler that mounts on the centerline of the desired oil level.



# OPTO-MATIC® CLOSED SYSTEM OILERS

## APPLICATIONS

The Opto-Matic® Closed System Oiler is designed for all types of equipment where a constant level in an oil sump must be maintained. The closed system design prevents contamination and spillage. The adjustable collar allows the oil level to be externally adjusted to the desired level. A 1/8 NPT port is provided for a vent line back to the housing to allow pressure balancing between the oiler and the housing.

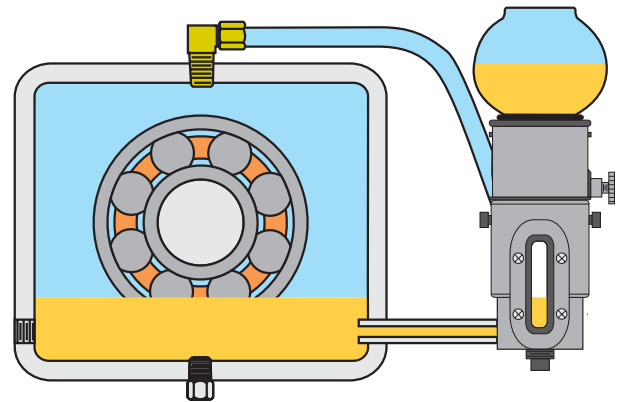


## FEATURES

- One piece glass reservoir ensures proper constant level function. Compared to competitive models, there is no possibility of air leakage that would cause overfilling of the housing.
- Adjustable level setting allows use in many applications
- Bottom of adjusting collar indicates actual oil level setting for easy set-up and maintenance
- Side and bottom connections for simplified installation
- 2" sight gauge for easy viewing of oil level

## SELECTION CHART

Model No.	Capacity	Dimensions (in.)			
		A	B Min.	B Max.	NPT
30203	4 oz.	2-11/16	7-1/16	7-13/16	1/4
30205	8 oz.	3-3/16	8	8-3/4	1/4
30210	16 oz.	4-1/8	8-7/8	9-5/8	1/4



Opto-Matic closed system oiler with pressure balancing line

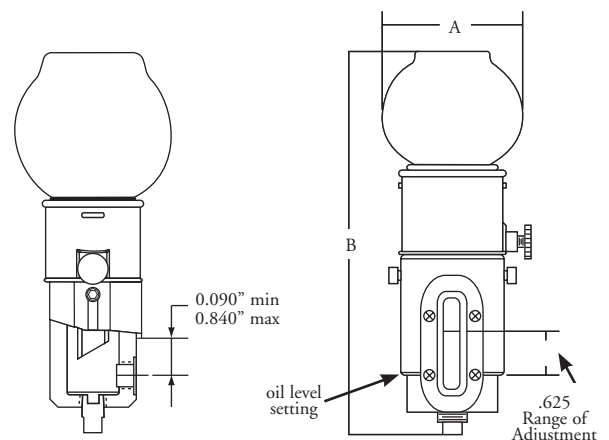
## SPECIFICATIONS

<b>Max. Operating Temp.</b>	250°F Continuous
<b>Reservoir</b>	One-Piece Glass Bottle
<b>Upper Casting</b>	Zinc
<b>Lower Body</b>	Zinc
<b>Adjusting Collar</b>	Zinc
<b>O-Ring</b>	Viton®

## WIRE GUARDS

Wire guards are ordered separately and are customer installed.

Model No.	Description
30013	4 oz. Guard
30016	8 oz. Guard
30020	16 oz. Guard



See Spectrum Opto-Matic Collars in the Storage, Handling & Identification section for color coding options.



# WATCHDOG® OILERS

The Watchdog® closed system oiler is designed for bearing housings, gear boxes, and other oil sump applications. It is ideal for use in the chemical processing, power generation, pulp and paper, and utility industries. The viewport provides visual indication of lubricant level and condition. Mounted on the centerline of the desired oil level, these constant level oilers do not require any adjustment or level setting.

## FEATURES

- Closed system design prevents contamination and spillage
- No vent line to pump bearing housing required, simplifying installation
- 2 oz. or 4 oz. reservoirs provide oil make-up
- Mounts on centerline of desired oil level, and does not require adjustment or level setting
- Integral viewport eliminates need for additional component

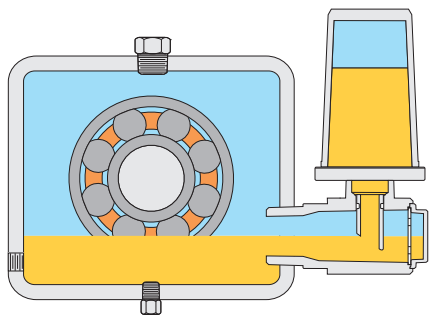


## SPECIFICATIONS

	Aluminum Body	Thermoplastic Body	Stainless Steel Body
<b>Body</b>	Cast Aluminum	Polysulfone	Stainless Steel
<b>Reservoir</b>	Glass	Polysulfone	Glass
<b>Viewport</b>	Glass	Polysulfone	Glass
<b>Max. Operating Temp.</b>	325°F/160°C	325°F/160°C	325°F/160°C
<b>O-Ring</b>	Viton®	Viton®	Viton®

## SELECTION CHART

Model No.	Style	Capacity	Connection	Wire Guard	Dimensions (in.)		
					A	B	C
31804	Thermoplastic Body, Reservoir and Viewport	4 oz.	1 NPT	No	5-3/4	3-9/32	1
31818	Aluminum Body, Glass Reservoir and Viewport	4 oz.	1/2 NPT	No	6-1/4	4-1/8	1/2
31820		4 oz.	3/4 NPT	No	6-1/4	3-1/4	3/4
31821		4 oz.	1 NPT	No	6-1/4	3-1/4	1
31822		4 oz.	3/4 BSPT	No	6-1/4	4-1/8	3/4
31823		4 oz.	1 BSPT	No	6-1/4	3-1/4	1
31824		4 oz.	3/4 NPT	Yes	6-1/2	3-3/8	3/4
31825		4 oz.	1 NPT	Yes	6-1/2	3-3/8	1
31826		4 oz.	3/4 BSPT	Yes	6-1/2	4-1/8	3/4
31827		4 oz.	1 BSPT	Yes	6-1/2	3-3/8	1
31828		4 oz.	1/2 NPT	Yes	6-1/2	4-1/8	1/2
31829	Stainless Steel Body, Glass Reservoir and Viewport	4 oz.	1 NPT	No	6-1/4	3-1/4	1



Watchdog Oiler mounted on centerline of desired oil level

