

# NeterNizer

### AN ELEGANT

### SOLUTION TO MICRODOSING









# MeterMizer

- \*Reduces lubricant cost.
- \*Reduces cleanup cost in the work area.
- \*Reduces cleanup cost of finished parts.
- \*Cools, cleans and extends the life of all abrasive wheels.
- \*Automatic, frees operator from lubrication interruptions.
- \*Dispense lubricant in an airless metered drop upon command
- \*Dispense lubricant into a stream of air with pulsating action.
- \*Lubricant is dispensed on a programmable count of the machine cycles.
- \*Lubricate bearings at multiple locations on a prearranged time cycle.
- \*Operate using a solenoid valve controlled by an electrical switch or a PLC.
- \*Lubricates, cools and removes chips from machining applications.
- \*Lubricate parts during automatic assembly to eliminate maring of parts.



SP NOUSTRI

The MeterMizer can deliver a drop of lubricant without an air assist when required. Used in assembly applications or for chain lubrication.

The amazing MeterMizer is a positive displacement lubricating spray system. It operates in unison with, or independent of, the cycle of the machine and dispenses lubricant to the piece in either one fast instantaneous burst or multiple bursts of lubicant, as needed. After lubricant is dispensed during the cycle, the shop air will continue to remove chips until the next lubricant dispersion or until shut off.

# **Applications**

The MeterMizers unique design allows it to be used in many dierent applications. Precise and controlled dispensing of fluids in a new low pressure spray. Here are a few of the applications for the MeterMizer, use your imagination for others.

### **Drilling, Milling and Tapping Applications**

Drilling Milling and Tapping Applications need not only lubrication, they not only lubrication, but they also require cooling and chip removal. The MeterMizer injects lubricant or coolant into the air stream either on a repetative time cycle, programmed schedule or manual command. After the lubricant is dispensed the air remains on to cool the drill or tap and remove chips.

### **Stamping Applications**

A little lubricant goes a long was in a stamping application. Best suited for smaller stamping applications, The Metermizer is tied into the cycle of the press and dispenses small amounts of lubricant on each cycle of the press or is programmed to dispense the lubricant on a predetermined cycle count. The low pressure air contains the lubricant in a confined area while reducing lubricant consumption.

### Saw Applications

Use the BasicMeterMizer on Horizontal, Vertical or Cold Saws as well as abrasive and diamond wheels to extend the life of the tool as well as improve the finish of the cut. Since the MeterMizer Saw Nozzle surrounds the saw blade, complete lubrication and cooling is achieved. It is the cleanest and most efficient method of lubricating saw blades.

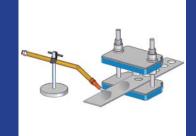
### **Overhead Conveyor Lubrication**

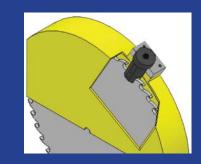
Bearings on overhead conveyors have to be lubricated on a regular basis to eliminate jerking and grabbing. The MeterMizer is a cost effective way of ensuring precise lubrication without a mess. Set up with a LSP Controller and the Proximity Sensor picks up the location of the bearing and sends a signal to the MeterMizer to lubricate the bearings at just the right time. LSP offers other methods of actuating systems to satisfy specific needs.

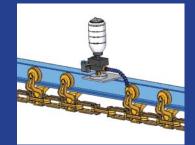
### **Assembly Applications**

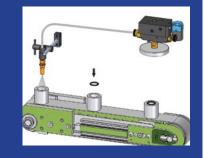
The MeterMizer can apply lubricant to a part prior to the insertion of another part. By applying the lubricant in a confined and controlled manner the two parts are assembled without scratches, tears or gouges. Shown here is an O-Ring being inserted into a manifold after the O-ring hole is lubricated.











# Here's How It Works!

The MeterMizer consists of miniature Lubricant Ejectors, Oscillating Timer, Reservoir, On/Off Valve, Manifold and remote Nozzles with Coaxial Tubing. Lubricant Ejectors, are stacked to the underside of the Manifold. The Reservoir is inserted into the top of the Manifold and shop air enters the On/Off Valve at the side of the Manifold. A Bleeder Valve under the bottom Ejector is opened and Lubricant enters the Manifold and moves on to the Ejectors where it fills the Lubricant Chambers in each Ejector. The Bleeder Valve is closed. When the On/Off Valve opens shop air enters the Manifold and is split in two directions. Some of the air goes to the Oscillating Timer and the rest is directed out the nozzle. The air directed to the Oscillating Timer redirects the air to the Lubricant Ejectors in pulses. These pulses can be increased or decreased in frequency. Each pulse

### **Oscillator Timer**

When a constant stream of air is sent to the Oscillating Timer it will pulse air to the Ejector on a scheduled time sequence until air is stopped. These pulses activate the Ejectors.

### **Reservoir Snap Cap** Large Cap makes it easy to

fill. Vented to prevent vacuum lock.

### Reservoir, (19 oz.) Clear plastic to easily

monitor lubricant level.

### **Filter** (Not shown) 200 mesh Filter stops particles from entering and damaging

from entering and damaging the Ejectors.

### Push/Pull Fittings

Allows for fast removal of tubing running from the Ejector to the Nozzle. Fittings standard on both the Ejector and the Nozzle.

### Manual ON/OFF Valve When open it allows air to go

to the Oscillator and initiate the repetitive time cycle. Excess air is directed out the Nozzle Tip to disperse lubricant being dispensed by the Ejector.

### **Volume Control**

Sets the amount of lubricant dispensed on each actuation of the Ejector.

Ejector (See Reference Fig 1)

Bleeder Valve Finger controlled. Bleed at initial startup or if Reservoir runs dry.

### Strong Magnetic Base

Installs on either the side or bottom of the MeterMizer. Allows MeterMizer to be attached to either a vertical or horizontal steel surface.

### Air Shut Off & Volume Control

Turning of the knob adjust the volume of air being exhausted out of the Nozzle tip or shuts it off completely.

### Coaxial Tubing

Tube within a tube. Inner tube transports lubricant to the Nozzle Tip while the outer tube transports air to the Nozzle Tip. Once the lubricant exits the nozzle tip it is carried to the work area by the air being exhausted out the Nozzle Tip. activates the Lubricant Ejectors by pushing a Piston forward, displacing a preset volume of lubricant past a Check Valve and into the inner tube of the Coaxial Tubing. The lubricant moves to the Nozzle tip in measured volumes. When the inner tube is full, on the next pulse, it ejects one measured drop of lubricant into the air stream being expelled out of the outer tube of the Coaxial Tubing. The Air and lubricant are carried to the work area. In between pulses the MeterMizers piston returns to the rest position. The check valve is closed preventing lubricant from returning to the Piston Chamber from the Coaxial Tubing. Lubricant from the Reservoir refills the Lubricant Chamber and is ready for the next pulse from the Oscillating Timer. This process is repeated with each pulse.

### **MM-3000** FlexTube Nozzle Assembly A 12" flexible hose with a round Nozzle. Allows the Nozzle to be positioned in any direction for accurate results. **MM-3002** Fan Spray Nozzle Nozzle delivers a fan spray for wider areas. Ideal for stamping applications. MM-3005 Saw Blade Nozzle Encapsulates the cutting edge of a cold saw, band saw or diamond blade in a cooling lubricant for long life.

### MeterMizer Ejector

#### Air Inlet

Oscillating Timer or Solenoid Valve directs air through the Manifold to the Ejector and sends the Piston forward dis- placing lubricant out the Nozzle

#### Volume Knob

Controls the volume of lubricant dispensed with each actuation.

#### Piston

When air activates the piston it will displace any lubricant in fornt of its ram and dispense an equal amount out of the Nozzle.

### Piston Spring

When the Oscillating Timer or Solenoid Valve shuts off, the Spring returns the Piston to the rest position allowing lubricant to fill the lubricant chamber for its next cycle.

of the inlets between

O-rings

Seals all of the inlets between the Manifold and the Ejectors.

#### Lubricant Inlet

Lubricant flows from the Manifold to the Ejectors when they are ready to be refilled.

#### Air Inlet

Air enters the Inlet Port and exits the Nozzle while carrying lubricant to the work area.

Air Control Valve Shuts off or regulates the volume

of air being exhausted out of the Nozzle

Outlet Fitting Accepts Coaxial Tubing with Push-Pull fitting

### **Outlet Check Valve**

Spring loaded ball is opened by the lubricant on its way to the Nozzle. When the piston returns the ball reseats, preventing lubricant from returning to the lubricant chamber

# **MeterMizer-XL Systems**

### using the MeterMizer-SA inserted in Security Enclosures

- Available with Oscillating Timers or Solenoid Valves.
- Includes: Manifold, Ejectors, Reservoir, Manual On/Off Valve and Nozzle with Magnetic Base and 10' Coaxial Tubing for each Ejector.
- (Magnets to hold the box in place are ordered separately.)



MM-206X-XL MeterMizer -XL w/MeterMizer-SA Systems and Oscillating Timer

Every ejector on every MeterMizer unit includes a twelve inch FlexTube on a Magnetic Base, standard nozzle assembly and 10 feet of coaxial tubing.



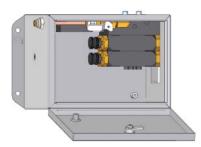


MM-206X-XL MeterMizer -XL w/MeterMizer-SA Systems and Solenoid Valve

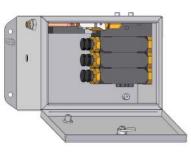
# **MeterMizer-XL Systems**

### using the MeterMizer-BG inserted in Security Enclosures

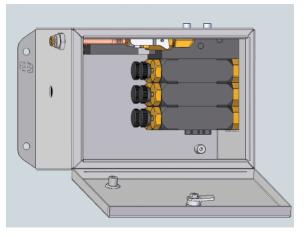
- Available with Oscillating Timers or Solenoid Valves.
- Includes: Manifold, Ejectors, Manual On/Off Valve and Nozzle with Magnetic Base and 10' Coaxial Tubing for each Ejector.
- (Magnets to hold the box in place are ordered separately.)



MM-2070-XL Includes all of the above and three Ejectors.



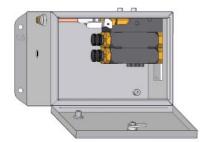
MM-2072-XL Includes all of the above and two Ejectors.



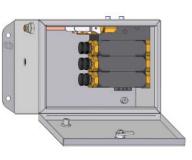
MM-207X MeterMizer -XL w/MeterMizer-BG Systems and Oscillating Timer

Every ejector on every MeterMizer unit includes a twelve inch FlexTube on a Magnetic Base, standard nozzle assembly and 10 feet of coaxial tubing.

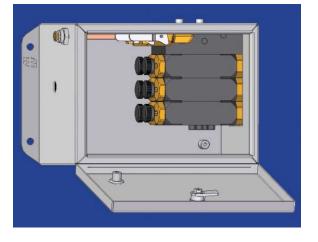




MM-2075-XL Includes all of the above and three Ejectors.



MM-2077-XL Includes all of the above and two Ejectors.



MM-208X MeterMizer -XL w/MeterMizer-BG Systems and Solenoid Valve

# **MeterMizer-SA Systems**

### **Stand Alone System with Reservoir**

### MM-200X MeterMizer-SA Series

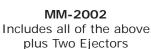
Includes an Oscillating Timer, Manifold, Magnetic Base, Ejectors, 19 oz. Reservoir, Manual ON/Off Valve, Nozzle, Magnet and 10' Coaxial Tubing.





MM-2001 Includes all of the above plus One Ejector







MM-2003 Includes all of the above plus Three Ejectors

Every ejector on every MeterMizer unit includes a twelve inch FlexTube on a Magnetic Base, standard nozzle assembly and 10 feet of coaxial tubing.





### MM-201X MeterMizers-SA Series

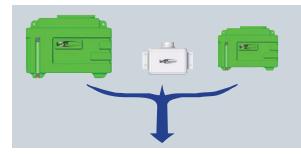
Includes: a Solenoid Valve, Manifold, Magnetic Base, Ejectors, 19 oz. Reservoir, Manual On/Off Valve, Nozzle, Magnet and 10' Coaxial Tubing.

# **MeterMizer-SA Systems**

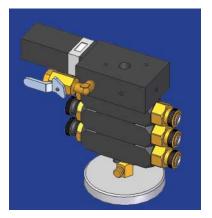
### **Stand Alone System without Reservoir**

### MM-202X MeterMizers - SA with Oscillating Timer Less Reservoir

Includes: Manifold, Magnetic Base, Ejectors, Manual ON/Off Valve, Nozzle, Magnet, and 10' Coaxial Tubing.



Applications requiring larger volumes of lubricant will be better served with a larger Reservoir. These resevoirs are usually remote form the MeterMizer and attached with five feet of plastic tubing. Reference Page 13 for Resrevoir information.





MM-2021 Includes all of the above and one Ejector



MM-2022 Includes all of the above and Two Ejectors



MM-2023 Includes all of the above and Three Ejectors

Every ejector on every MeterMizer unit includes a twelve inch FlexTube on a Magnetic Base, standard nozzle assembly and 10 feet of coaxial tubing.







MM-2031 Includes all of the above and one Ejector



MM-2032 Includes all of the above and two Ejectors



MM-2033 Includes all of the above and three Ejectors

### MM-203X MeterMizers - SA with Solenoid Valve Less Reservoir

Includes: Manifold, Magnetic Base, Ejectors, Manual ON/Off Valve, Nozzle, Magnet, and 10' Coaxial Tubing.

## MeterMizer-SC for Single Cycles

The MeterMizer-SC for single cycles is designed to deliver lubricant and air together in quick short actuations upon command. A single Solenoid Valve is used to dispense air from the Nozzle Tip and actuate the Ejector at the same time to dispense a predetermined amount of lubricant into the air stream. As soon as the Solenoid Valve is shut off the air will stop the system is ready for its next cycle.

This system is perfect for stamping, assembly, chain lubrication and other applications.

### MM-204X MeterMizer-SC Series with Reservoir

Includes: a Solenoid Valve, Manifold, Magnetic Base, Ejectors, 19 oz. Reservoir, Manual On/Off Valve, Nozzle, Magnet and 10' Coaxial Tubing.





MM-2040 Includes all of the above plus One Ejector



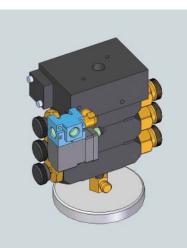
MM-2041 Includes all of the above plus Two Ejectors

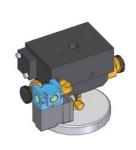


MM-2042 Includes all of the above plus Three Ejectors

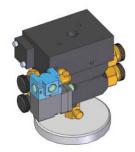
Every ejector on every MeterMizer unit includes a twelve inch FlexTube on a Magnetic Base, standard nozzle assembly and 10 feet of coaxial tubing.







MM-2045 Includes all of the above and one Ejector



MM-2046 Includes all of the above and two Ejectors



MM-2047 Includes all of the above and three Ejectors

### MM-204X MeterMizer-SC Series with Reservoir

Includes: a Solenoid Valve, Manifold, Magnetic Base, Ejectors, Manual ON/Off Valve, Nozzle, Magnet and 10' Coaxial Tubing.

# **MeterMizer-BG Systems**

The MeterMizer-BG is designed to handle additional Ejectors for the larger jobs where more nozzles are needed to complete the application. Large Reservoirs for the larger applications. Install REMOTE from the MeterMizer. Comes with 5 feet of tubing to connect between Reservoir and MeterMizer. Smaller Reservoirs, for the applications where Ejectors are not actuated as frequently, such as tapping or chain lubrication, attach DIRECTLY to the MeterMizer.

### MM-205X MeterMizer - BG Four Ejectors or More





MM-2052 6 Ejector System

Includes:

One Oscillating Timer, Manual On/Off Valve, One Nozzle, FlexTube, Magnetic Base and 10' of Coaxial Tubing per Ejector. Reservoir and operating actuators are not included and must be ordered separately.

Includes:

One Solenoid Valve Manual On/Off Valve, One Nozzle, FlexTube, Magnetic Base and 10' of Coaxial Tubing per Ejector. Reservoir and operating actuators are not included and must be ordered separately.

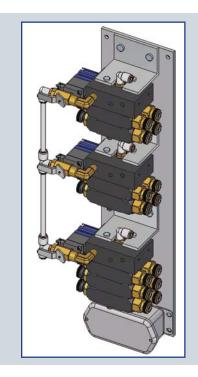


4 Ejector System

MM-2055 4 Ejector System



MM-2057 6 Ejector System



### **Custom Assembled Systems**

With Solenoid Valve Custom Assembled MeterMizers SA or BG assemblies mounted on special brackets. All plumbing and wiring in place and integrated for single line connections. *Specify:* 

- MeterMizer Systems to be mounted on Brackets
- Nozzle specifications.
- Manual On/Off Valves or Solenoid Valve for air in port.
- Permanent Screw type installation or Magnetic Base installation.
- Other accessories available upon request.

# **Nozzles and Accessories**

A variety of Nozzles and Accessories are available for the many applications where the MeterMizer is used.



Twelve inch FlexTube on a Magnetic Base. Standard Nozzle Assembly supplied with the MeterMizer System.



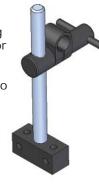
### MM-3002

Twelve inch FlexTube with Nozzle.

Adaptor on the end designed to accept the P-926 LSP Swivel Bracket which attaches to either the MagnaBase or the fixture for permanently mounting to a surface.

### P-925

A six inch Post with a Swivel Bracket Attached to a Mounting Plate. The Mounting Plate is permanently affixed to a vertical or horizontal surface. Can reposition Nozzle up and down and a full 360o for total coverage. Use whenever nozzle is going to be in a localized area but needs to be reaimed periodically.



### P-3005

Rotating Nozzle on Nozzle Extender Comes as an assembled unit. Twelve inch Nozzle Extender attached to the Swivel Bracket on a Magnetic Base. Nozzle offers additional versatility by being able to rotate an additional 300 from its fixed position. Other Nozzles can be adapted to the Swivel Bracket if required.

### MM-9110 Inner Lubricant Transport Tubing Tubing used to carry the Lubricant to the Nozzle.

### MM-9019

A six inch Post Attached to a Magnet with a Swivel Bracket Adapts to all of the Nozzles and offers portability plus ease of redirecting the Nozzle in any position necessary.



M-900 Outer Air Transport Tubing Tubing that carries the air to the Nozzle.





Fan Nozzle Designed to deliver a Fan Spray Pattern to the work area on each actuation of the MeterMizer.

### MM-3015

Saw Blade Nozzle Nozzle is slotted to surround the cutting edge of a saw blade. Delivers lubricant to the front and the sides of the saw blade as it passes through the nozzle. Mounting plate is ideal for Circular saws. Allows flexible positioning of the Nozzle to its perfect position.



# Reservoirs

Reservoirs are available for use on any size system and may be substituted for standard Reservoirs supplied with The MeterMizer. Reservoirs can be attached either directly or remote from the MeterMizer



**P-315** 5 Gallon Reservoir with Filter Bag, Sight Glass and 5' of Supply Tubing to the Meter-Mizer.



**P-312** 1-1/2 Gallon Reservoir with Filter Bag, Sight Glass and 5' of Supply Tubing to the Meter-Mizer.

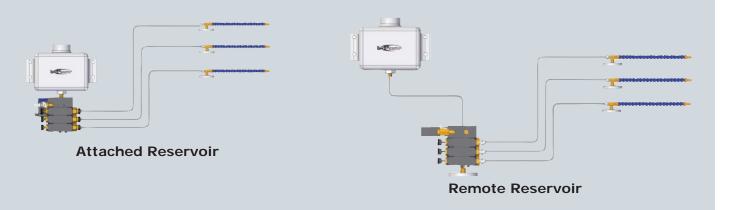


**MM-3305** 1/2 Gallon Reservoir See Through with Filter Bag, and 5' of Supply Tubing to the Meter-Mizer.

The P-315 and the P-312 are permanently attached to a surface when used. The MM-3305 can be permanently attached to a surface or can be mounted to a vertical surface with two MM-905 Magnets.



### Larger reservoirs can be attached remote or direct to the MeterMizer





### Reservoir supplied as a permanent attachment to the MeterMizer

### P-3319

See Through 19 oz. Reservoir with Full ???? Mesh Filter. Large cap allows for easy filling. Attaches direct the top of the MeterMizer. Not too small so that it always needs refilling and not too big that it is difficult to transport.

# LSP Electronic Controllers

LSP Electronic Controllers can replace the Oscillating Timer. Whenever a part moves past the sensor the Controller receives a signal and then goes through a programmed sequence dispensing lubricant and air.



### **E-300 Electronic Controller**

Activate every cycle, multiple actuations per cycle or count cycles up to 99. E-300-2 Electronic Controller

Same as the E-300 but with two programmable outlets.

E-305 Electronic Pulsator

Give multiple actions per cycle or give a two count, (actuation every other cycle).

E-305-2 Electronic Pulsator Same as the E-305 but with two programmable outlets. **E-310 Electronic Counter** Set to activate from a count of one to 99 cycles. E-310-2 Electronic Counter Same as the E-310 but with two programmable outlets. **E-315 Electronic Timer** Sets a repetitive cycle lasting up to 99 hours before having to be reset. E-315-2 Electronic Timer Same as the E-315 but with two programmable outlets.



Side View

### MM-9000 Oscillating Air Timer

Sends repetitive actuations to the MeterMizer. Actuates from once every twenty seconds up to three times per second.



E-230 24 V Solenoid Valve P-912 110 V Solenoid Valve Use with switch of users choice.

When used with the Oscillating Timer Solenoid Valve, used in place of the manual valve. Ties into the machine and when machine starts the solenoid opens and remains open until machine shuts down. While open it keeps the Oscillating timer operating, pulsing lubricant into the air stream until shut down.

When used in place of the Oscillating Timer, it will pulse lubricant into the air stream every time it receives a signal from a LSP Controller or a PLC.



### MM-9024 Manual Valve

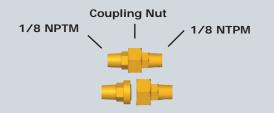
Open the valve and the Oscillating Timer starts operating. Shut the valve and the air shuts off and the Oscillating Timer goes to rest.

### Accessories



### **AIR REGULATORS**

MM-9030 Regulates air up to 80 PSI. An additional source of air regulation for air exhausting out of the nozzle plus regulates the air pressure controlling the piston.



### V-911 Mounting Union 1-1/8NPTM X 1-1/8 NPTM

Used for mounting MeterMizer to a vertical surface. Allows installation and removal of unit without twisting upside down. The unit can be disassembled without emptying the Reservoir.



### Level Control

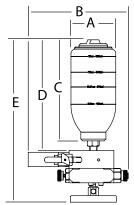
User to supply adaptor to signal a light, bell or interconnect with machine.

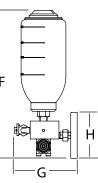
E-150 for 1.5 Gal. Reservoirs E-152 for 5 Gal Reservoirs

# **MeterMizer Dimensions**

### MeterMizer-SA with Reservoir

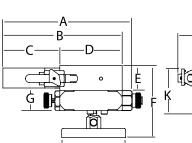
	With Oscillating Timer										
Part #	Α	В	С	D	E	F	G	Н			
MM-2001	3.125	7.00	6.55	7.25	10.80	9.70	4.50	3.20			
MM-2002	3.125	7.00	6.55	7.25	11.80	10.70	4.50	3.20			
MM-2003	3.125	7.00	6.55	7.25	12.80	11.70	4.50	3.20			
			With S	Solenoid	d Valve						
MM-2011	3.125	5.35	6.55	7.25	10.80	9.70	4.75	3.20			
MM-2012	3.125	5.35	6.55	7.25	11.80	10.70	4.75	3.20			
MM-2013	3.125	5.35	6.55	7.25	12.80	11.70	4.75	3.20			

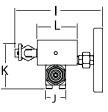




#### MeterMizer-SA without Reservoir With Oscillating Timer

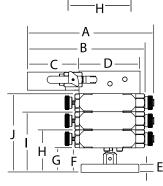
							,					
Part #	Α	В	С	D	E	F	G	н	1	J	K	L
MM-2021	6.900	6.00	2.85	3.125	1.25	3.60	1.00	3.20	4.40	1.00	2.250	2.250
MM-2022	6.900	6.00	2.85	3.125	1.25	4.60	1.00	3.20	4.40	1.00	3.250	2.250
MM-2023	6.900	6.00	2.85	3.125	1.25	5.60	1.00	3.20	4.40	1.00	4.250	2.250
With Solenoid Valve												
MM-2031	5.25	4.35	1.20	3.125	1.25	3.60	1.00	3.20	4.40	1.00	2.250	2.250
MM-2032	5.25	4.35	1.20	3.125	1.25	4.60	1.00	3.20	4.40	1.00	3.250	2.250
MM-2032	5.25	4.35	1.20	3.125	1.25	5.60	1.00	3.20	4.40	1.00	4.250	2.250

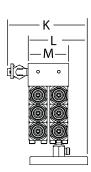


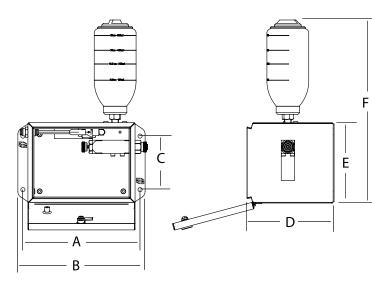


### MeterMizer-BG

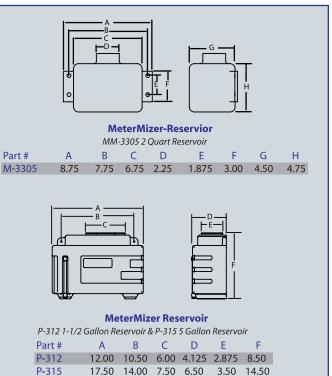
With Oscillating Timer												
Part #	Α	В	С	D	Е	F	G	Н	1	J	K	L
MM-2040	7.00	6.50	2.85	3.375	.338	1.285	2.275	0.000	3.275	4.525	4.44	3.39
MM-2042	7.00	6.50	2.85	3.375	.338	1.285	0.000	3.275	4.275	5.525	4.44	3.39
				1	Nith Sc	lenoid \	/alve					
MM-2031	6.50	6.25	2.60	3.375	.338	1.285	2.275	0.000	3.275	4.525	4.44	3.39
MM-2032	6.50	6.50	2.85	3.375	.338	1.285	0.000	3.275	4.275	5.525	4.44	3.39







MeterMizer-XL										
With Oscillating Timer or Solenoid Valve										
Part #	Α	В	С	D	E	F				
MM-2061	8.75	9.50	4.00	6.50	6.00	13.25				
MM-2062	8.75	9.50	4.00	6.50	6.00	13.25				
MM-2063	8.75	9.50	4.00	6.50	6.00	13.25				



# MeterLube

MeterLube is a family of environmentally safe lubricants recommended for use in the MeterMizer. MeterLube products are formulated from natural environmentally safe resources. They are safe because they are a renewable resource and a natural part of the environment. They have a useful life and then are readily biodegradable in a safe and beneficial manner. The MeterLube is not only safe to the environment it is also safe for the employees. It is economical to use, leaves a good finish on the work piece, extends the tool life and is easy to remove.

There are several MeterLube products available. Each having features that are unique to specific applications. Find the right one for your application.



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