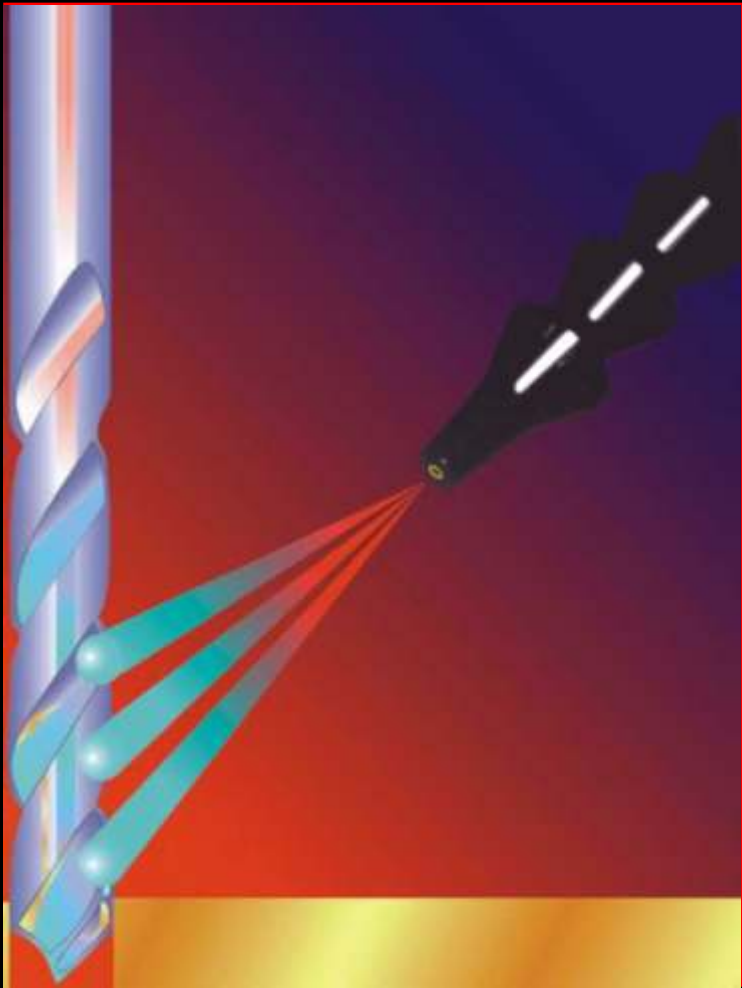


**PRECISE FLUID DISPENSING PRODUCTS**

***uni-MAX***  
**CUTTING TOOL LUBRICATION  
SYSTEMS**



*"a better idea" from*



## INTRODUCTION

Since 1957, UNIST has continuously refined their precise fluid dispensing products to meet customers' ever changing needs. The precisely engineered Uni-MAX line represents our answer to low cost, high efficiency application of fluids with limited environmental impact.

**uni-MAX**<sup>TM</sup>

**A CONCEPT** - Systems comprised of black anodized aluminum blocks and metering pumps which can be configured to perform various application functions including :

**COOLUBRICATORS** - Systems which use a pulse generator to automatically and accurately cycle the metering pumps for continuous liquid output.

**Serv-O-Spray Systems** which dispense intermittently upon receiving a pneumatic signal. Fluid may be either pure liquid or air atomized.

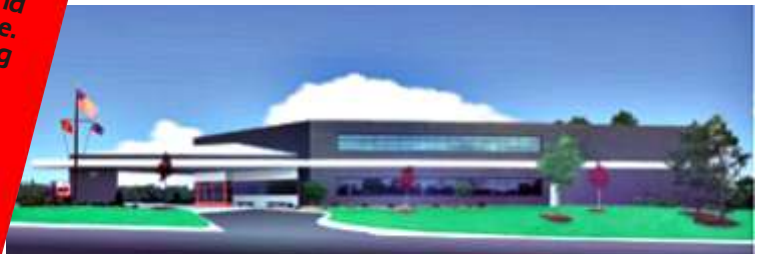
**Single Line Systems** combine fluid and air in one small outlet (approximately 1/8") line.  
Note: Should only be used when dispensing cycles are consistent over a long term.

**COOLUBE** - A UNIST trade name for very pure, high efficiency, vegetable based metal working fluids. These fluids are non-toxic, biodegradable and very environmentally and user friendly.

## THE HISTORY OF UNIST





UNIST, Inc. has designed and manufactured a wide variety of spray systems and components for more than forty years.

Our experience and expertise in the field of applying coolants and lubricants has been proven again and again. This allows us to recommend standard systems or design customized systems from basic component parts for almost any liquid spraying application. UNIST is a small but growing company dedicated to meeting the particular needs of individual customers.



# PRECISE FLUID DISPENSING PRODUCTS

## LUBRICATION REQUIREMENTS

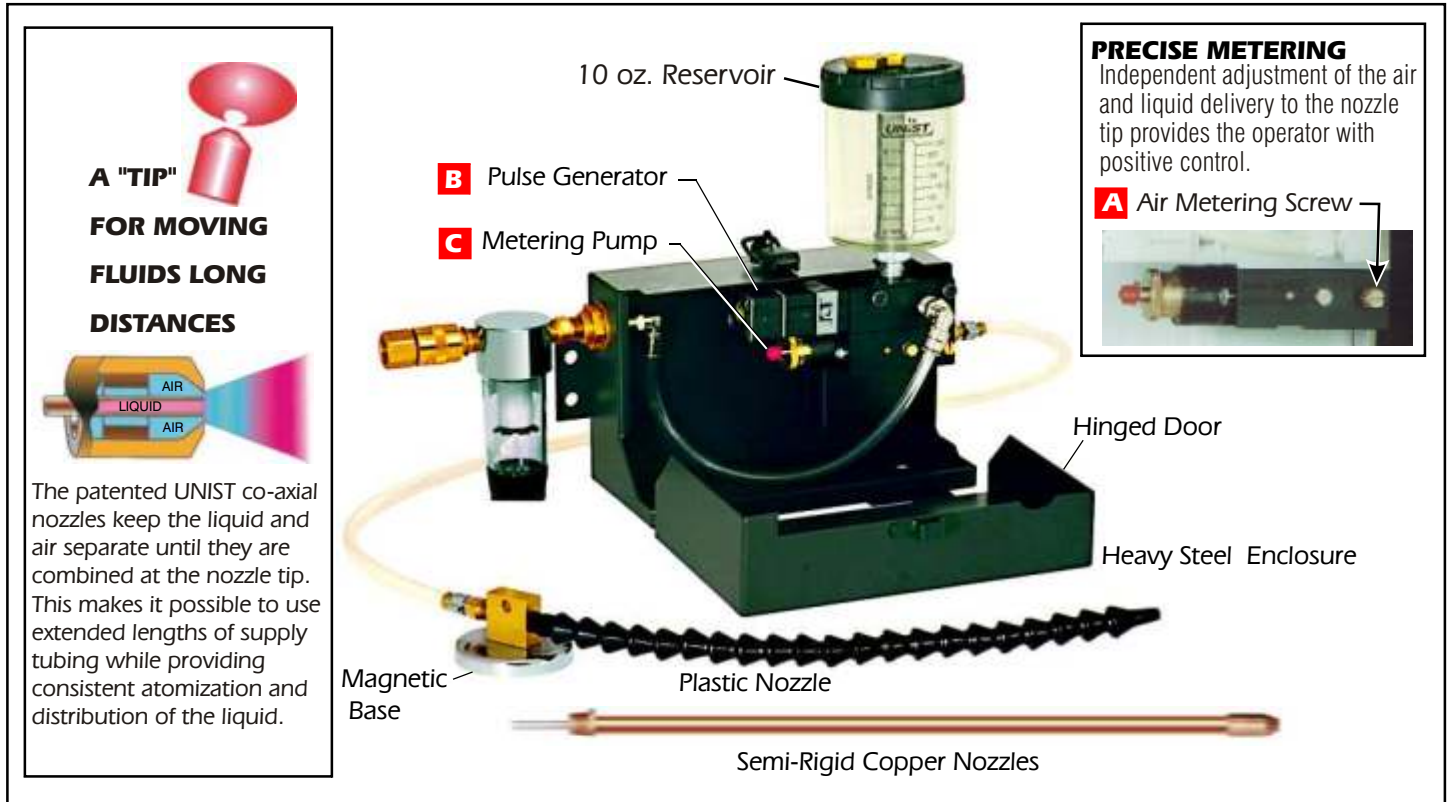
TYPE OF APPLICATION	CONTINUOUS		Page
	INTERMITTENT		
	<b>COOLUBRICATORS 1 to 3 nozzle units</b>	◊	<b>4-5</b>
	<b>COOLUBRICATORS 4 or more nozzle units</b>	◊	<b>10-11</b>
	Single or multiple nozzle continuous, positive displacement spray unit		
	<b>Serv-O-Spray 1 to 3 nozzle units</b>	◊	<b>6-7</b>
	<b>Serv-O-Spray 4 or more nozzle units</b>	◊	<b>10-11</b>
	Single or multiple nozzle intermittent, positive displacement spray unit		
	<b>Single Line series 1 to 3 nozzle units</b>	◊	<b>8-9</b>
	<b>Single Line series 4 or more nozzle units</b>	◊	<b>10-11</b>
	Single or multiple nozzle continuous, positive displacement spray unit		
	<b>COOLUBE</b>	◊ ◊	<b>12</b>
	A very pure, high efficiency vegetable based metal cutting lubricant formulated for use with uni-MAX precise delivery systems.		

# uni-MAX

## CUTTING TOOL LUBRICATION SYSTEMS



(616) 949-0853 - Toll Free: (800) 253-5462 - Fax: (616) 949-9503  
 e-mail: unimail@unist.com • <http://www.unist.com>



**Coolubricator Systems** are designed primarily for the application of new generation high efficiency lubricants such as UNIST Coolube. Coolubricators will also dispense almost any viscosity lubricant and deliver that lubricant with more precision and reliability than any other dispensing system available. The system functions on the same principles as Serv-0-Spray with the addition of a variable rate pulse generator. This pulse generator allows for automatic, infinite repeat cycling of the lubricant pump from a single air source. The result is a continuous output of lubricant controlled by three separate adjustments: An air metering screw **A** 5-200 Pulse/minute pulse generator **B** ; and a .2- 1 .0cc stroke liquid metering pump **C** (see photo). Optional valves are available for manual, electrical, or pneumatic actuation of all Coolubricators.

The lubricant spray is delivered through an external mix nozzle coupled to a 5' co-axial hose. The magnetic base at the hose/nozzle connection allows for easy relocation of the nozzle. Standard nozzle styles are semi-rigid copper or flexible plastic. The hose/nozzle adapter block has a clearance hole for a 1/4" bolt and a 1/4-20 tapped hole for fixed mounting.

Select a Coolubricator when continuous output is required in precise amounts for one to three nozzle applications




**SPECIAL FEATURES:**

- Positive Injection Lubrication System
- Automatic Repeat Cycling of Metering Pumps- Co-Axial Output
- Full Adjustment of Air and Liquid Output
- Various Mounting Options
- Optional Actuation Valves
- Optional Reservoir Styles
- Optional Nozzle Configurations
- Unlimited Number of Outlets


**APPLICATIONS:**

- Circular Sawing
- Band Sawing
- Milling- Drilling
- Tapping
- Boring
- Reaming
- Many others


**ONE NOZZLE COOLUBRICATOR CONFIGURATIONS**

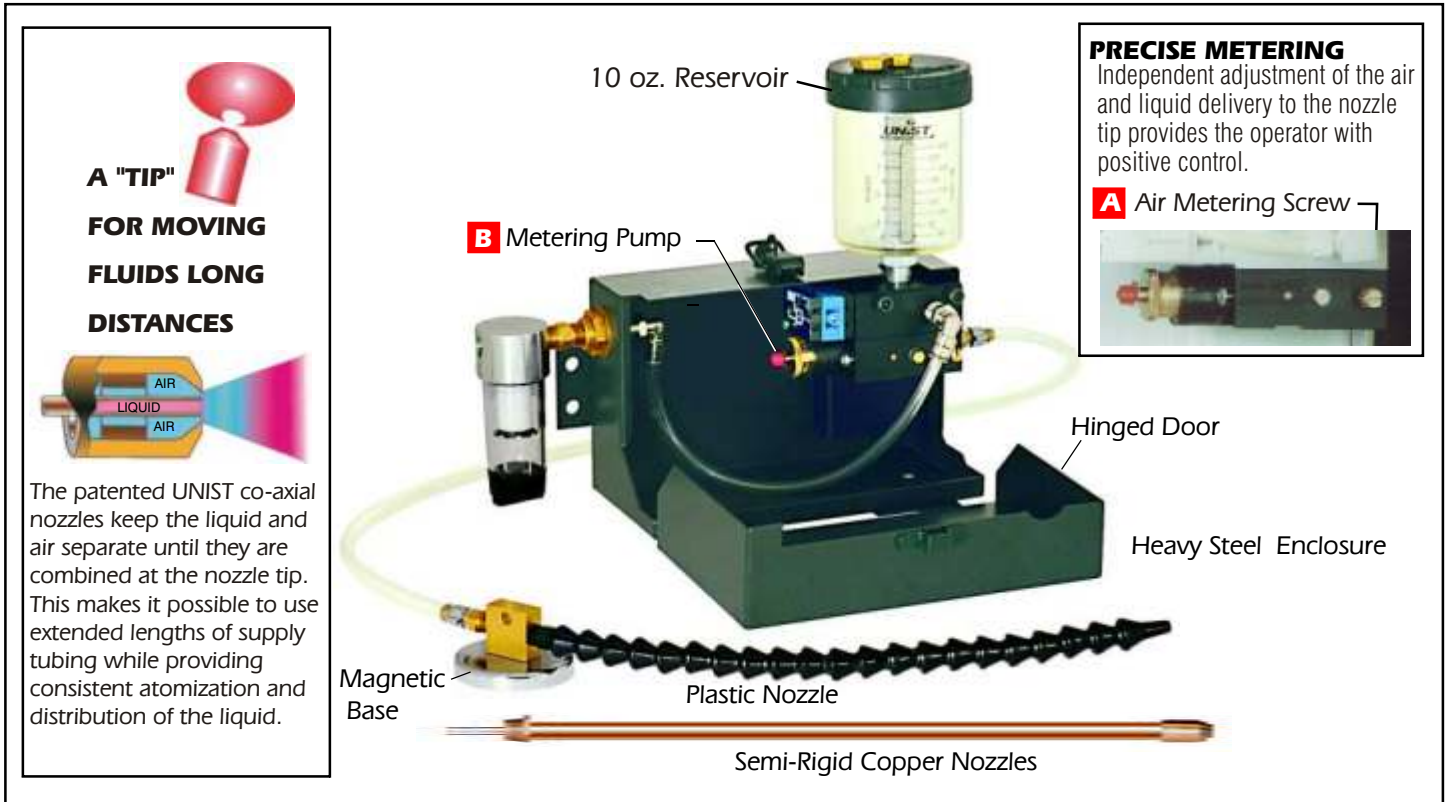
	Part No.	Manual Valve	Solenoid Valve (110v)	12" Plastic Nozzle	12" Copper Nozzle	5' Hose	10 oz. Nylon reservoir
	9550-4-5-12	●		●		●	●
	9550-5-5-12	●			●	●	●
	9550-7-5-12		●	●		●	●
	9550-8-5-12		●		●	●	●

**TWO NOZZLE COOLUBRICATOR CONFIGURATIONS**

	Part No.	Manual Valve	Solenoid Valve (110v)	12" Plastic Nozzle	12" Copper Nozzle	5' Hose	10 oz. Nylon reservoir
	9570-4-5-12	●		●		●	●
	9570-5-5-12	●			●	●	●
	9570-7-5-12		●	●		●	●
	9570-8-5-12		●		●	●	●

**THREE NOZZLE COOLUBRICATOR CONFIGURATIONS**

	Part No.	Manual Valve	Solenoid Valve (110v)	12" Plastic Nozzle	12" Copper Nozzle	5' Hose	10 oz. Nylon reservoir
	9560-4-5-12	●		●		●	●
	9560-5-5-12	●			●	●	●
	9560-7-5-12		●	●		●	●
	9560-8-5-12		●		●	●	●



**Serv-O-Spray Systems** are completely self-contained, positive displacement spray systems. Simply supply an intermittent air signal to operate the system. The output adjustments are simple and the results are always dependable and consistent. Liquid output is adjusted with the knob on each metering pump. Any amount of air can be added to atomize the liquid. An air metering screw controls the flow of air out the nozzle which determines the density and distance of the spray. There is complete control of overspray and accurate placement of the lubricant or other material being applied is assured. The spray output has an included angle of approximately 11-18 degrees depending on the amount of air introduced. The area covered can be increased or decreased by using the air and liquid controls.

**Multiple metering pumps can be vertically "stacked"** in the Serv-O-Spray, with each pump supplying its own nozzle. This provides additional spray coverage from multiple nozzles. Nozzle outputs are controlled separately by individual air metering screw **A** and metering pump adjustments **B**. Multiple nozzle Serv-O-Spray Units are ideal for multiple spindle drills and taps, stock shearing, or any application requiring material being sprayed from several points.

Select a Serv-O-Spray System when intermittent fluid output is required in precise amounts for one to three nozzle applications

7




**SPECIAL FEATURES:**

- Positive Injection Lubrication System
- Co-Axial Output
- Full Adjustment of Air and Liquid Output
- Various Mounting Options
- Optional Actuation Valves
- Optional Reservoir Styles
- Optional Nozzle Configurations
- Unlimited Number of Outlets


**APPLICATIONS:**

- Tapping
- Drilling
- Milling
- Cut-Off-Knives and Blades
- Punching
- Reaming
- Boring
- Many Others


**ONE NOZZLE SERV-O-SPRAY CONFIGURATIONS**

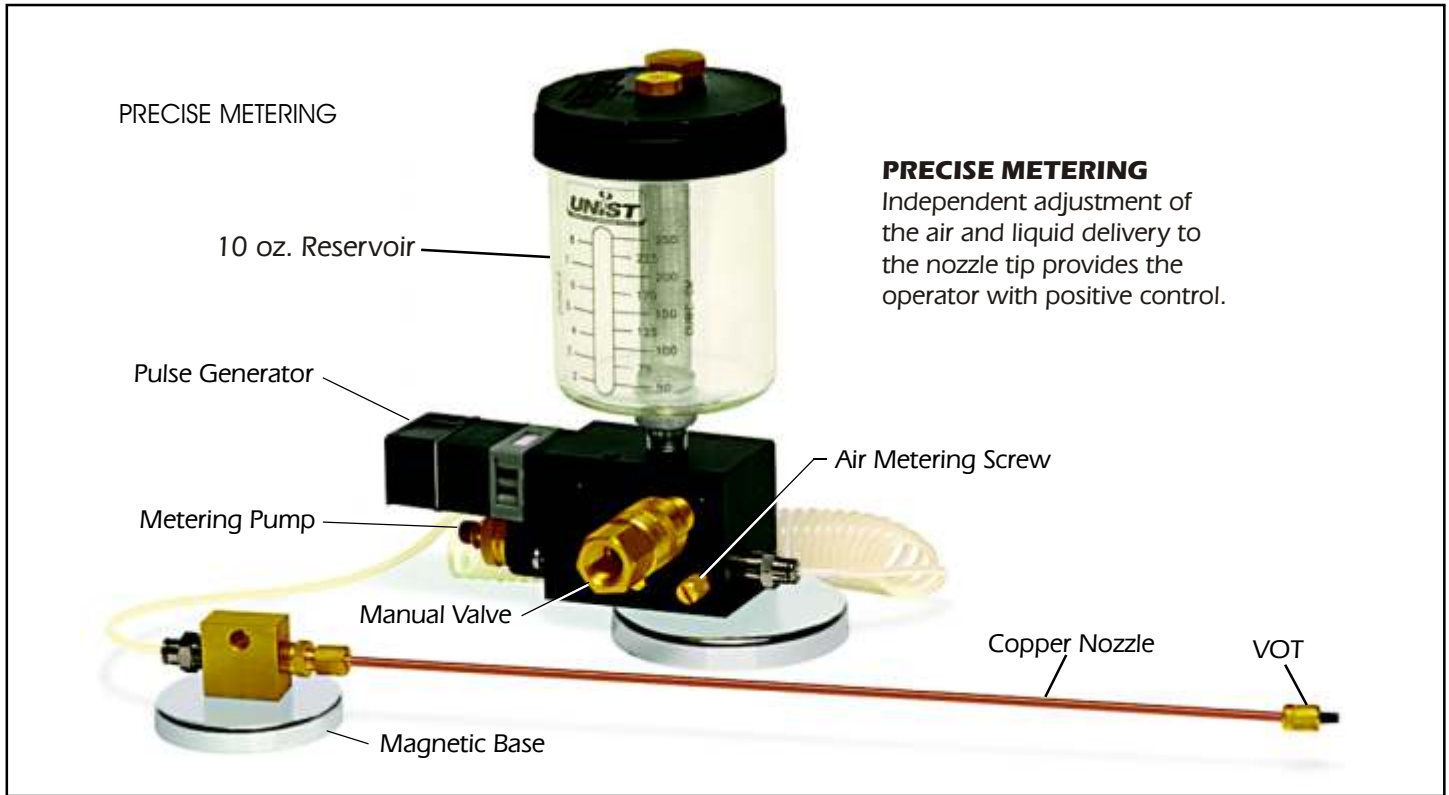
	Part No.	No Valve	Solenoid Valve (110v)	12" Plastic Nozzle	12" Copper Nozzle	5' Hose	10 oz. Nylon reservoir
	25011	●		●		●	●
	25012	●			●	●	●
	25013		●	●		●	●
	25014		●		●	●	●

**TWO NOZZLE SERV-O-SPRAY CONFIGURATIONS**

	Part No.	No Valve	Solenoid Valve (110v)	12" Plastic Nozzle	12" Copper Nozzle	5' Hose	10 oz. Nylon reservoir
	25021	●		●		●	●
	25022	●			●	●	●
	25023		●	●		●	●
	25024		●		●	●	●

**THREE NOZZLE SERV-O-SPRAY CONFIGURATIONS**

	Part No.	No Valve	Solenoid Valve (110v)	12" Plastic Nozzle	12" Copper Nozzle	5' Hose	10 oz. Nylon reservoir
	25031	●		●		●	●
	25032	●			●	●	●
	25033		●	●		●	●
	25034		●		●	●	●


**BACKGROUND:**

The Single Line System has been designed as an alternative to UNIST Coolubricator Systems. The modular design has been developed for customers who require a more compact and less expensive means of applying Coolube or other lubricants.

These lubricants require very minute and accurately recurring applications for full effectiveness on metalcutting, metalforming, or other lubrication requirements. Single Line Systems meet these requirements in a neat and compact modular design.

**METHOD OF OPERATION:**

A constant, clean and dry filtered air source operates a pneumatic pulse generator with an adjustment range of 5-200 times per minute. The air "pulses" operate one or more positive displacement metering pumps which pump Coolube into an air chamber. The air and lubricant is then combined to create a lubricant spray which is dispensed by means of a 1/8" OD Nylon Tube. This tube is positioned by a 1/8" OD Copper Nozzle which is directed at the cutting tool or workpiece. The end of the 1/8" tube is fitted with the UNIST Variable Orifice Tip (VOT) which provides proper velocity and consistency of lubricant application,

**SPECIFICATIONS:**

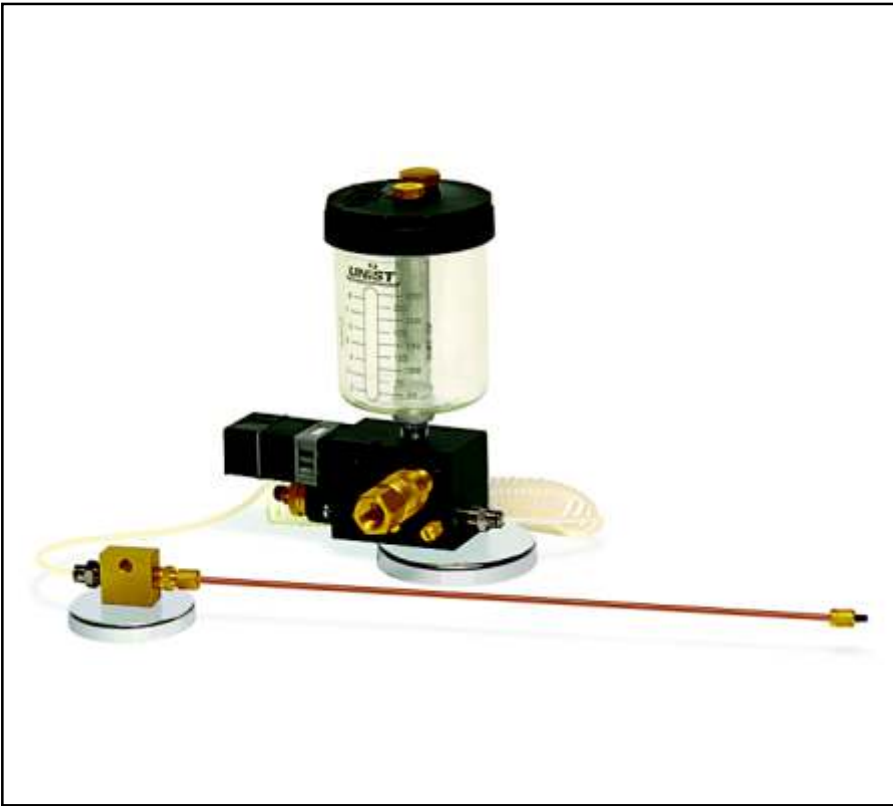
The UNIST metering pumps require a minimum 45 PSI air signal interrupted by a controlling on/off Solenoid, Manual, or Air Pilot Valve.

The metering pumps dispense from .2 to 1 drop/cycle (1 drop equals .033 cc). The resulting output dispensed by Uni-MAX is .033 cc to 6.67 cc per nozzle per minute. The unit is mounted with a magnetic base for portability. Magnets are standard on the Nozzle.

**COST EFFECTIVE:**

Uni-MAX Single Line Systems provides cost effective method of applying high efficiency lubricants. These metalworking lubricants require a unit to dispense them in minute amounts. Uni-MAX Single Line Systems provides the necessary method for accomplishing this task.

Select a Single Line System when continuous fluid output is required in precise amounts for one to three nozzle applications



**SPECIAL FEATURES:**

- Positive Injection Lubrication System
- Automatic Repeat Cycling of Metering Pumps
- Air/Oil Spray Combined in 1/8" Tube
- Full Adjustment of Air and Liquid Output
- Various Mounting Options
- Optional Actuation Valves
- Optional Reservoir Styles
- Optional Nozzle Configurations
- Unlimited Number of Outlets

**APPLICATIONS:**

- Circular Sawing
- Band Sawing
- Boring
- Drilling
- Milling
- Reaming
- Tapping
- Many others

**ONE NOZZLE SINGLE LINE CONFIGURATIONS**

	Part No.	Manual Valve	Solenoid Valve (110v)	12" Nozzle		10' Tubing	10 oz. Nylon Reservoir
				Copper	Plastic		
	20013	●		●		●	●
	20014			●		●	●
	20015	●			●	●	●
20016			●	●	●	●	

**TWO NOZZLE SINGLE LINE CONFIGURATIONS**

	Part No.	Manual Valve	Solenoid Valve (110v)	12" Nozzle		10' Tubing	10 oz. Nylon Reservoir
				Copper	Plastic		
	20023	●		●		●	●
	20024			●		●	●
	20025	●			●	●	●
20026			●	●	●	●	

**THREE NOZZLE SINGLE LINE CONFIGURATIONS**

	Part No.	Manual Valve	Solenoid Valve (110v)	12" Nozzle		10' Tubing	10 oz. Nylon Reservoir
				Copper	Plastic		
	20033	●		●		●	●
	20034			●		●	●
	20035	●			●	●	●
20036			●	●	●	●	

Use "a thru k" as a Quick Visual Reference between illustrations, parts list and order form.

**STEP 1** CHECK OFF  OPTIONS FROM APPROPRIATE ILLUSTRATION.

**STEP 2** LOCATE PART NUMBERS FROM CHART ON PAGE 11.

**STEP 3** ENTER PART NUMBERS IN ORDER FORM BELOW CHART.

**a** ACTUATION VALVE OPTIONS

NONE

MANUAL VALVE

NON-STANDARD

AIR PILOT VALVE

**b** RESERVOIR OPTIONS

AIR TRAP

10 oz. NYLON

16 oz. POLYETHYLENE

32 oz. POLYETHYLENE

64 oz. POLYCARBONATE

**c**

9 5 5 0	1	
9 5 7 0	2	
9 5 6 0	3	
9 5 8 0	4	
9 5 9 0	5	
9 6 0 0	6	

**e** HOSE LENGTH IN FEET

1 \_\_\_\_\_

2 \_\_\_\_\_

3 \_\_\_\_\_

4 \_\_\_\_\_

5 \_\_\_\_\_

6 \_\_\_\_\_

**d** 1-3 ENCLOSURE ENC 20-03  
4-6 ENCLOSURE ENC 20-06

### COOLUBRICATORS

**a** ACTUATION VALVE OPTIONS

NONE

SOLENOID VALVE

AIR PILOT VALVE

**b** RESERVOIR OPTIONS

AIR TRAP

10 oz. NYLON

16 oz. POLYETHYLENE

32 oz. POLYETHYLENE

64 oz. POLYCARBONATE

**c**

2 5 - 0 1	1	
2 5 - 0 2	2	
2 5 - 0 3	3	
2 5 - 0 4	4	
2 5 - 0 5	5	
2 5 - 0 6	6	

**e** HOSE LENGTH IN FEET

1 \_\_\_\_\_

2 \_\_\_\_\_

3 \_\_\_\_\_

4 \_\_\_\_\_

5 \_\_\_\_\_

6 \_\_\_\_\_

**d** 1-3 ENCLOSURE ENC 20-03  
4-6 ENCLOSURE ENC 20-06

### Serv-O-Spray

**a** ACTUATION VALVE OPTIONS

NONE

MANUAL VALVE

NON-STANDARD

AIR PILOT VALVE

**b** RESERVOIR OPTIONS

AIR TRAP

10 oz. NYLON

16 oz. POLYETHYLENE

32 oz. POLYETHYLENE

64 oz. POLYCARBONATE

**c**

2 0 - 0 1	1	
2 0 - 0 2	2	
2 0 - 0 3	3	
2 0 - 0 4	4	
2 0 - 0 5	5	
2 0 - 0 6	6	

**f** HOSE LENGTH IN FEET

1 \_\_\_\_\_

2 \_\_\_\_\_

3 \_\_\_\_\_

4 \_\_\_\_\_

5 \_\_\_\_\_

6 \_\_\_\_\_

**j**






### Single Line Systems

## SAMPLE ORDER FORM

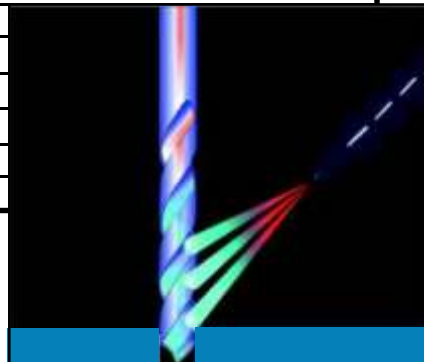
<b>a</b> VALVE P/N	<b>b</b> RESERVOIR P/N	<b>c</b> STACK P/N	<b>g</b> NOZZLE P/N	<b>e/f</b> LENGTH	<b>K</b> NOZZLE STYLE
68-1040-18-110	69-461	9580	6120PT	5	18P
<b>h</b> Part No.	<b>Description</b>	<b>Qty</b>	<b>6120PT</b>	<b>5</b>	<b>18SR</b>
60-6340-22	*Magnetic Base - Nozzle Block		<b>6122PT</b>	<b>6</b>	<b>18P</b>
<b>J</b> 60-6340-20	Magnetic Base - Unit		<b>6122PT</b>	<b>7</b>	<b>6P</b>
<b>d</b> 1-3 ENCLOSURE	<b>d</b> 4-6 ENCLOSURE				
	<b>ENC 20-06</b>				

## STEP 2

LOCATE P/N'S OF ITEMS CHECKED OFF ON ILLUSTRATION(S) AT LEFT

NOZZLE OPTIONS	
	FLEXIBLE PLASTIC
	SEMI-RIGID COPPER
	FLEXIBLE STEEL
	SINGLE NOZZLE
	SPLIT NOZZLE

**g**  
1  
2  
3  
4  
5  
6



<b>a</b> ACTUATION VALVES		
Part No.	Description	
69-5506	Optional	Manual valve
68-1030	Optional	Air Pilot Valve - 1/4"
68-1030-18	Optional	Air Pilot Valve - 1/8"
68-1050	Optional	Foot Pedal Control
Solenoid Valves for 1,2,3 Nozzle Systems		
68-1040-18-110	Standard	110VAC
68-1040-18-24	Optional	24VAC
68-1040-18-24	Optional	220VAC
Solenoid Valves for 4,5,6 Nozzle Systems		
68-1040-110	Standard	110VAC / 24VDC
68-1040-24	Optional	24VAC
68-1040-220	Optional	220VAC
<b>b</b> RESERVOIRS		
Part No.	Description	
69-456-N	Standard	10 oz. Nylon
69-456-PE	Optional	16 oz. Polyethylene
69-460	Optional	32 oz. Polyethylene
69-461	Optional	64 oz. Polycarbonate
6139	Optional	Air Trap (For pressure or gravity feed)
<b>g</b> NOZZLE EXTENSIONS		
Part No.	Description	
2031 - X - SR	1/8" O.D. Copper Nozzle - Model 20	
2031 - X - SR	1/8" O.D. Copper Nozzle - Model 20	
6122PT	Coolubricator Extension W/Magnetic Base	
6120PT	Coolubricator Extension W/O Magnetic Base	
6127PT	Serv-O-Spray Extension W/Magnetic Base	
6125PT	Serv-O-Spray Extension W/O Magnetic Base	
" X " SR	Copper - Semi-Rigid	
" X " F	Flexible Steel	
" X " F	Flexible Plastic	
NOTE: For " X " Specify Length in inches.		

**K**

## STEP 3 FILL IN FORM USING P/N'S FROM STEP 2.

<b>a</b> VALVE P/N	<b>b</b> RESERVOIR P/N	<b>c</b> STACK P/N	<b>g</b> NOZZLE P/N	<b>e/f</b> LENGTH	<b>K</b> NOZZLE STYLE
<b>h</b> Part No.	<b>Description</b>	<b>Qty</b>			
60-6340-22	*Magnetic Base - Nozzle Block				
<b>J</b> 60-6340-20	Magnetic Base - Unit				
<b>d</b> 1-3 ENCLOSURE	<b>d</b> 4-6 ENCLOSURE				

\*For Nozzle Magnetic Mount - Order One for each pump



# CUTTING TOOL LUBRICATION SYSTEMS



## The Revolutionary Metalworking Lubricant

A super high efficiency lubricant available in liquid, paste, and block form. For use with applicators covered in this catalog.

"This metalworking lubricant replaces flood coolants and Lubricants" You get less reworking of parts because of exit burrs, oversize holes, and rough finishes. Tools stay sharper much longer and during extreme pressure this product really shines. Cleans up with warm water and soap solution. You can plate, paint or seal over a surface exposed to Coolube because it leaves such minimal residue.

**Do away with costly coolant disposal charges.  
Use drops instead of gallons and save.**

**Works Great On: Aluminum, Steel, Stainless Steel, Titanium, and many other exotic and non-exotic materials.**

### Advantages

- Non-Toxic**
- Non-Polluting**
- Non-Drying**
- Non-Staining**
- Contains No Chlorine**
- Permits Plating and Painting With No (or minimal) Clean-up**
- Seal Compatibility**
- Extreme Pressure Capability**
- Contains No Silicones**
- Contains No Petroleum Products**
- Extremely Cost Effective**

### Uses

- Forming**
- Drilling**
- Tapping**
- Reaming**
- Sawing**
- Sanding**
- Grinding**
- Milling**
- Punching**
- Stamping**
- Shearing**
- Forging**
- Swaging**
- Broaching**
- turning**
- Press Fitting**
- And More!**

LOCAL REPRESENTATIVE



UNIST, Inc. 4134 36th Street SE - Grand Rapids, MI 49512 USA  
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e-mail: unimail@unist.com • <http://www.unist.com>