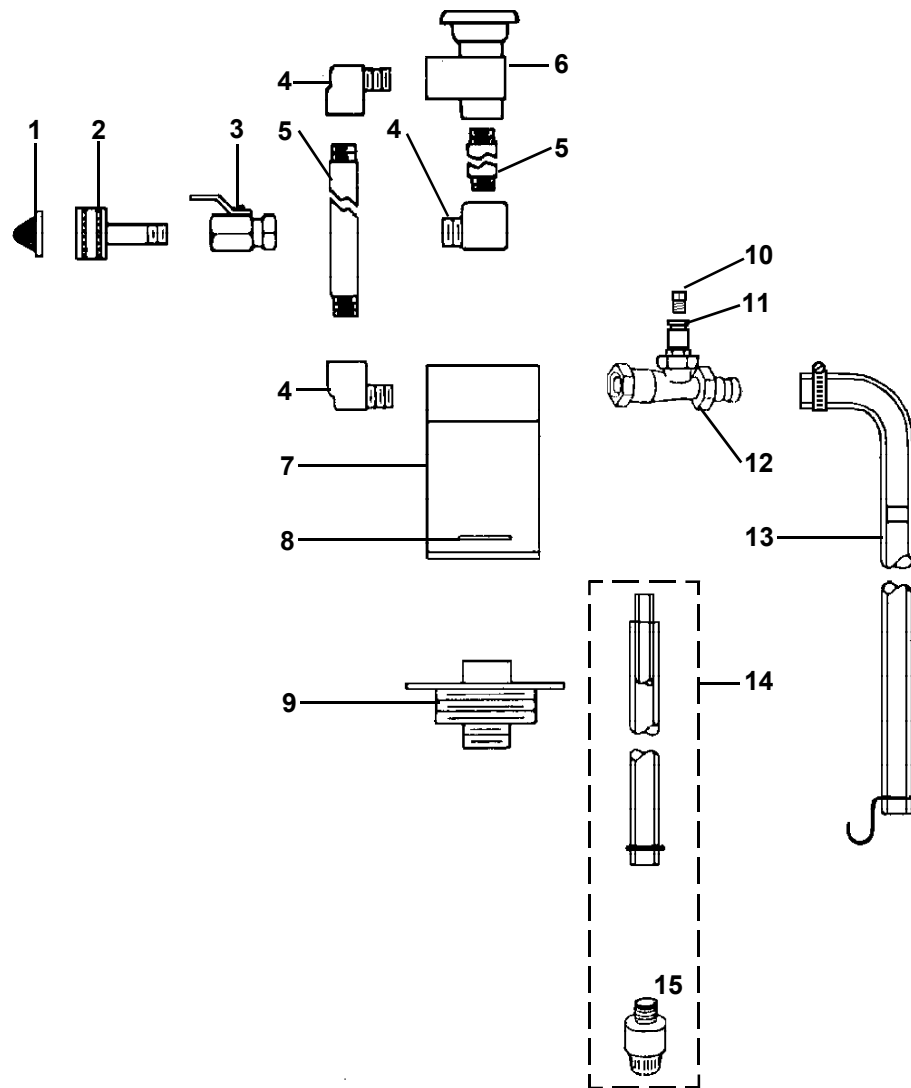


**FIGURE 2**  
**CIMCOOL Mix Master II Proportioner (440) Parts, Exploded View**

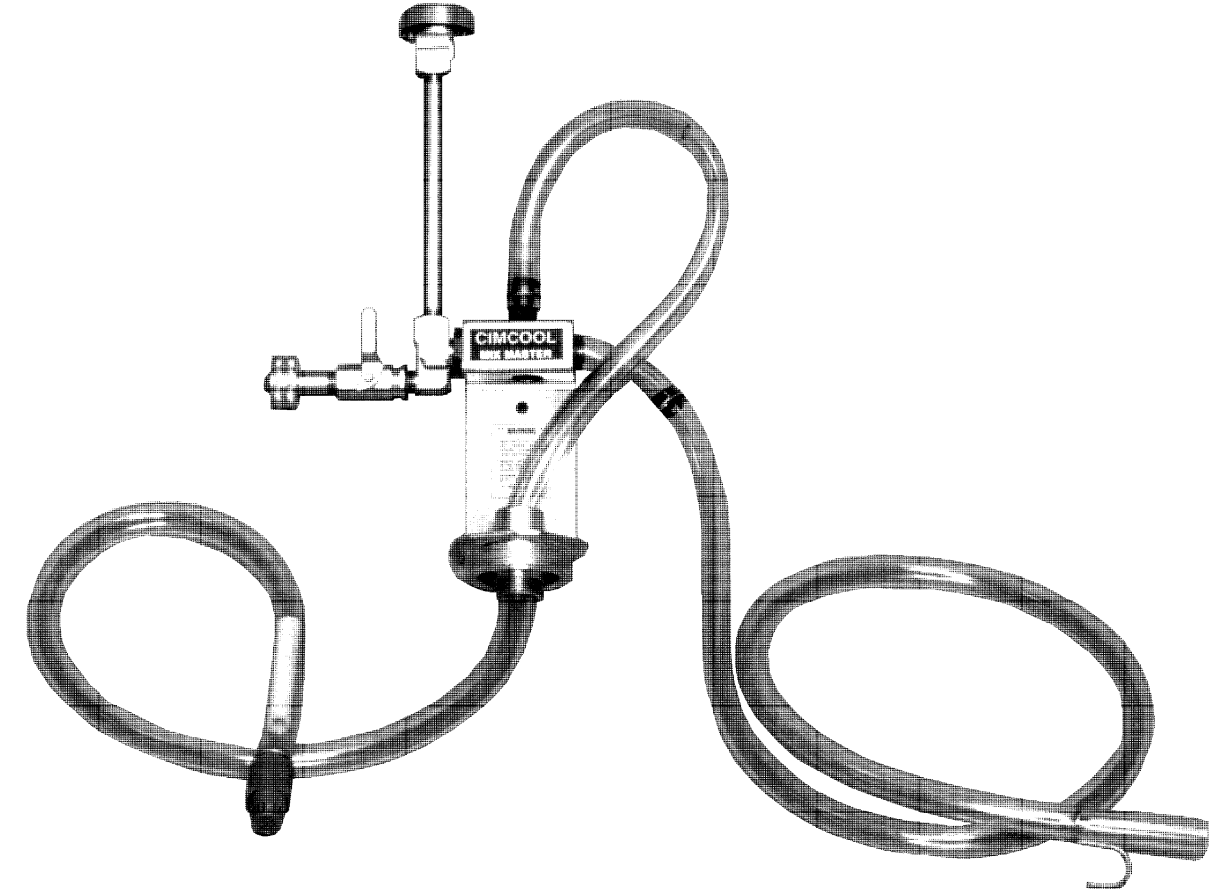


KEY	PART NO.	UPC	DESCRIPTION
1	3373335	66250500151	Strainer Washer (238100)
2	3373334	66250500160	Hose swivel (506500)
3	3367168	66250500078	Ball valve (502000)
4	3373333	66250500159	Street Elbow (505600)
5	3373337	66250500162	Nipple (505900)
6	3367148	66250500074	Vacuum Breaker (506300)
7	3373330	66250502246	Mounting Bracket (6150-K)
8	3373331	66250500157	Retaining Ring (615200)
9	3373332	66250500158	Bung Adapter Assy. (6162-A)
10	3373520	66250500144	Metering Tip Kit (690015)
11	3367149	66250500075	Orifice Retainer (441101)
12	3373518	66250500142	Venturi (Eductor Body) Assy. (441100-CM)
13	3373320	66250500082	Discharge Hose Assy. (5058-4DA)
14	3373329	66250500168	Siphon Hose/Foot Valve Assy. (5058-4DM)
15	3373519	66250500143	Foot Valve Assy. (10076305)



# CIMCOOL® MIX MASTER PROPORTIONER II

Part Number 440  
 UPC 66250502549



**WARNING:**

Do not use the proportioner where water pressure exceeds 90 psig (620 KPa). Do not use the proportioner with a water supply temperature above 170°F (77°C). Use caution when handling chemicals; wear protective eyewear and gloves to prevent contact with the chemicals. Failure to follow these instructions may result in personal injury.

For more specific information on the safety of the various CIMCOOL metalworking fluids, obtain the Product Information Folder(s) and follow the recommendations provided.

**OPERATING INSTRUCTIONS/INSTALLATION GUIDE DESCRIPTION**

The CIMCOOL Mix Master II is a simple, economical, and accurate method to mix CIMCOOL metalworking fluid concentrate with water. The most important requirement in the use of metalworking fluids is maintaining the proper mix ratio. The Mix Master II siphons concentrate from a 55 gallon (208 L) drum and mixes it with water to supply approximately 3 to 4\* gallons per minute of premixed fluid for an individual machine tool reservoir, central system, or premix tank. This is accomplished by a siphoning venturi operating on water pressure.

The two main requirements for successful operation of the equipment are a minimum water pressure of 15 psig (101 KPa) (flow pressure) and selection of the proper metering tip.

The unit features a vacuum breaker to prevent backflow of fluid concentrate to the tap water line (in compliance with OSHA regulation 29 CFR section 1910.141 (b)(2)(iii)).

The unit also features a foot valve/strainer to prevent backflow of concentrate into the drum.

\* 3.7 gpm at 40 psig flow pressure (14 LPM at 275 KPa)



## INSTALLATION

### MOUNTING

The CIMCOOL Mix Master II is designed to be installed in the bung opening (either two inch (5.0 cm) or ¾ inch (1.9 cm)) of a 55 gallon (208 L) fluid concentrate drum. Alternately, the proportioner can be mounted on a wall.

The CIMCOOL Mix Master II has two threaded connections for attaching the proportioner to either the large or small bung opening in the concentrate drum. The bung swivel connector makes it unnecessary to remove the tap water supply hose when changing from an empty to a full drum.

Two ¼ inch (.6 cm) holes are provided on the proportioner retaining bracket for wall mounting. The 2 inch (5.0 cm) bung connector must be removed to mount the proportioner to the wall.

For proportioner installation:

1. Remove either the two inch (5.0 cm) or ¾ inch (1.9 cm) bung from the upright drum.
2. Insert the foot valve/siphon hose into the bung opening.

3. When mounting on a drum, tighten the bung swivel connector (turn clockwise to the drum).

4. Install a water line (½ inch (1.3 cm) I.D.) to the proportioner. The proportioner has a ¾ inch (1.9 cm) female garden hose fitting water supply connection.

5. Select and insert the proper metering tip to use with the proportioner. Thread the metering tip into the orifice retainer by hand. Do not over-tighten.

### MIX RATIOS

The CIMCOOL Mix Master II is a venturi type proportioner which depends on water pressure and a metering tip to obtain a particular mix ratio. One set (15 tips) of color-coded plastic metering tips is enclosed with each unit. Please refer to Table 1 for Tip Identification Chart.

Refer to your CIMCOOL Product Information Folder for selecting the proper metering tip to obtain the recommended metalworking fluid concentration. The mix ratios were obtained at a flow pressure of 40 psig (275 KPa). Checking the actual mix ratio or concentration obtained at startup with a refractometer or titration kit is recommended.

Variation in fluid temperatures and water pressures will have a slight affect on the mix ratio. These variations can be minimized by

1. Installing a pressure regulator on the water line (remembering that the minimum water pressure is 15 psig (101 KPa) to operate the proportioner).
2. Using the fluid concentrate at room temperature.

Please be aware that changing the discharge hose length will affect the mix ratio. The discharge hose must have an open or gravity discharge and the flooding ring must be installed in the discharge hose for proper operation of the proportioner.

**TABLE 1: TIP IDENTIFICATION CHART**

PART NUMBER	COLOR	DIAMETER	DRILL SIZE
690043	Gray	.128	30
690042	Black	.098	40
690041	Light Brown	.070	50
690040	Red	.052	55
690049	White	.043	57
690039	Blue	.040	60
690038	Medium Brown	.035	65
690037	Green	.028	70
690048	Orange	.025	72
690036	Dark Brown	.023	74
690035	Yellow	.020	76
690046	Purple	.014	79
690047	Pink	.010	87
690044	Clear	Your Choice	(No Hole)

## MAINTENANCE

The CIMCOOL Mix Master II Proportioner features simple operation and low maintenance. With few moving parts there is little to wear out. However, it is recommended that the venturi assembly and metering tip area are inspected periodically to insure that no

residue is forming on the unit. If a residue or scale is forming (most likely due to hard water reacting with the product), cleaning with warm water and a cleaning fluid designed to remove scale is recommended. As the tubing shows signs of deterioration, replacement is recommended.

## TROUBLESHOOTING

PROBLEM	CORRECTIVE ACTION									
	Check water pressure (1)	Check metering tip (Table 1)	Check foot valve/strainer	Check discharge hose/flooding ring	Check fluid temperature	Check venturi/metering tip for residue or scale	Inspect/tighten water hose fitting and on/off ball valve	Clean/replace gasket on vacuum breaker	Clean with warm cleaning fluid (consider use of deionized water)	Clean inlet strainer
1. Unable to obtain proper mix ratio	X	X	X	X	X	X				
2. Mix ratio varies	X				X					
3. Proportioner leaks							X	X		
4. Water enters concentrate drum			X				X	X		
5. Scale forms on venturi or metering tip									X	
6. Unable to obtain water flow										X

- (1) Install pressure regulator to minimize changes in tap pressure. Minimum flow pressure to be 15 psig (101 KPa).

## SALES

The CIMCOOL Mix Master II Proportioner part number is 440. Use this part number when placing an order with your Milacron Distributor.

## SERVICE

For additional information contact: your Milacron Consumable Products Division Industrial Distributor or Milacron Consumable Products Division Customer Service: 1-800-319-2275 or 1-800-262-2271

## SPARE PARTS

Spare parts are available from your Milacron Consumable Products Division Industrial Distributor. (See Figure 2).

## WARRANTY

Milacron provides a limited warranty of 60 days from the date of sale, where we will replace at no charge any defective part on the proportioner.