



**THE ELECTRON  
MACHINE  
CORPORATION**

## **Product Applications**

The following are some examples of known product applications. The list of products that EMC equipment can measure is continually expanding.

Look for more detailed information in this area in future versions of the CD-ROM.

**[Applications in the Pulp and Paper Industry](#)**

**[Applications in the Food Industry](#)**

**[Applications in the Chemical Industry](#)**

## APPLICATIONS IN THE PULP & PAPER INDUSTRY

### Refractometers

Black Liquor	Starch*
Bleach	Sulfuric Acid
Green Liquor*	Tall Oil
Red Liquor	Various Caustics
Rosin Acid	Weak Black Liquor
Rosin Size	White Liquor

\*Optional special cleaners may be required

### Monitor Divert System

Black liquor to liquor guns on the recovery boiler.

### Consistency Transmitters

Bleached Pulp	Blow Tank	Headbox
Machine Chest	Recycle Pulp	Unbleached Pulp

## ELECTRON MACHINE CORPORATION INSTRUMENTS

MPR E-Scan	Electronic Scanning Microprocessor Refractometer with optional Isolation Valve. -State of the art process refractometer with high accuracy for pulp and paper industry applications.
MDS E-Scan	Monitor Liquor Diversion System with optional Isolation Valve. -The most comprehensive system meeting BLRBAC recommendations for safely monitoring black liquor solids.
SCT-83	Stock Consistency Transmitter -Optical consistency measurement 1-5% (higher ranges upon request).
LCM-77	Low Consistency Transmitter -Optical consistency measurement from 0-1%.
ABL-85A	Bench Top Refractometer -Off line black liquor testing in 30 seconds.

## **APPLICATIONS IN THE FOOD INDUSTRY**

### **Refractometers**

Acetic Acid	Detergents	Orange Juice
Applesauce/Juice	Egg Solids	Picante Sauce
Ascorbic Acid	Ethanol	Pineapple Juice
Aspartame	Fructose	Plant Protein
Baby Formula	Fruit Extracts	Preserves
Banana Puree	Fruit Juices	Prune Juice
Beer	Gelatin	Steak Sauce
Beet Sugar	Glucose/Dextrose	Sucrose
Cane Sugar	Glutamic Acid	Tea
Caramel	Grape Juice	Tomato Products
Chocolate Syrups	Honey	Vegetable Oils
Citric Acid	Jams	Waste Water
Coffee Creamer (ND)	Ketchup	Water Soluble Wax
Coffee Extract	Lactic Acid	Whey
Condensed Milk	Lactose	Wine Drinks
Corn Syrup	Malt Syrup	Yeast
Cranberry Juice	Maple Syrup	Yogurt
Cream Cheese	Milk	
	Molasses	Others.....

### **Process Polarimeter**

Fructose	Fructose/Dextrose	Glucose
Sucrose		

## **ELECTRON MACHINE CORPORATION INSTRUMENTS**

- MPR E-Scan Electronic Scanning Microprocessor Refractometer  
-State-of-the-art process refractometer with high accuracy for food industry applications.
- SSP/E-Scan Process Polarimeter  
-Degrees of arc rotation for purity and sugar ratio determination.

## APPLICATIONS IN THE CHEMICAL INDUSTRY

### Refractometers

Acetic Acid	Freon	Phosgene
Acetone	Ferric Chloride	Phosphoric Acid
Acrylamide Solution	Ferric Sulfate	Polyacrylamide
Acrylonitrile & Styrene	Fiberglass Binder Solution	Polyamide Salt
Adipic Acid	Formaldehyde	Polyoxyalkylene
Alcohol	Glutamic Acid	Potassium Carbonate
Aminate Acid	Glycerin	Propylene Glycol
Ammonia	Glycol	Propylene Oxide
Ammonia Hydroxide	Grain Alcohol	Salt Cake
Ammonium Lignin Sulfonate	Hexamethylenediamine	Soda Ash
Ammonia Nitrate	Hydrazine	Sodium Borate
Anethole	Hydrochloric Acid	Sodium Carbonate
Aniline & N-Isopropyl Aniline	Hydrogen Peroxide	Sodium Chloride
Aniline & Toluene	Hydrolysate	Sodium Formate
Ascorbic Acid	Isocyanate	Sodium Hydroxide
Boric Acid	Isopropyl Alcohol	Sodium Lignosulphonate
Brine	Lactic Acid	Sodium Phosphate
Cadmium Nitrate	Latex	Sodium Salt
Calcium Chloride	Lead Nitrate	Sodium Sesquicarbonate
Caprolactam	Lysine	Sodium Silicate
Casein	Magnesium Chloride	Sodium Sulfate
Citric Acid	Maleic Acid	Sodium Thiocyanate
Chlorine Dioxide	Methyl-Ethyl-Ketone	Sulfuric Acid
Cumene	Methanol	Sulphur Dioxide
Dioxane in H <sub>2</sub> O	Methyl Styrene	Tetrahydronaphthalene
DMF in H <sub>2</sub> O	Mono-chloric Acid	Urea
DMSO	Monosodium Glutamate	Waste Water
Epichlorohydrin	Monosodium Phosphate	Zinc Ammonia Chloride
Ethanol	Muriatic Acid	
Ethyl Acrylate	Nitric Acid	Others.....
Ethylbenzene & Styrene	Nylon Salt	
Ethylene Glycol	Oleum	

### ELECTRON MACHINE CORPORATION INSTRUMENTS

MPR E-Scan	Electronic Scanning Microprocessor Refractometer -State-of-the-art process refractometer with high accuracy for chemical industry applications.
------------	--