

*Instrumentation designed
with the user in mind.*

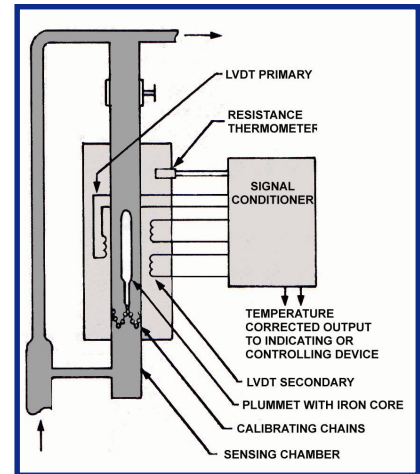
Specific Gravity Measurement

**Mass Balance Technique
Instantaneous - Sensitive
Temperature Compensated**

A totally submerged plummet of constant volume functions as the density sensor for the Densitrol. The plummet is fastened by chains to a reference base and the whole assembly (plummet, chains and reference base) is housed within a chamber through which the liquid flows.

The plummet is weighted so that it assumes an equilibrium position at mid range with the weight of the chains equally supported by the plummet and reference base. The weight acting on the plummet will change as the plummet moves up or down in response to a change in liquid density. For each liquid density the plummet will assume a definite position corresponding to that density.

A Linear Variable Differential Transformer (LVDT) is mounted on the outside of the sensor chamber and monitors the plummet inside. The plummet includes a magnetic iron core. When the density changes, the plummet moves to a new position which is sensed by the LVDT. The voltage signal from the LVDT is a function of the plummet position and corresponds to the existing liquid density.



DENSITROL™ Applications

Acetic Acid	Ethylene Glycol	Maleic Acid	Sodium Formate
Acetone	Ethylene Trichloride	Methane	Sodium Hydroxide
Acetonitrile	Ferric Chloride	Methyl Alcohol	Sodium Nitrate
Alkaline Etchant	Ferrous Sulfate	Methyl Amine	Sodium Phosphate
Aluminum Chloride	Fluosilicic Acid	Methyl Chloride	Sodium Silicate
Ammonia	Formaldehyde	Methyl Ethyl Ketone	Sodium Sulfate
Ammonium Chloride	Formic Acid	Methylene Chloride	Solder Flux
Ammonium Hydroxide	Freon	Miscella	Soybean Oil
Ammonium Nitrate	Fuel Oils	Molasses	Spin Bath Acid
Ammonium Phosphate	Furfural	Monoethanolamine	Streptomycin
Apple Juice	Fusel Oil	Naphtha	Sugar
Bean Curd	Gasoline	Nickel Nitrate	Sulfur Chloride
Beer	Gelatin	Nitric Acid	Sulfur Dioxide
Benzene	Gin	Nitrogen Tetraoxide	Sulfuric Acid
Benzyl Chloride	Glycerol	Oleum	Tallow
Calcium Nitrate	Grape Juice	Phenol	Toluene
Chlorobenzene	Graphite Dispersion	Phosphoric Acid	Trichloroethylene
Clay Slurry	Hexane	Pickling Solution	Uranyl Chloride
Coffee	Hydrazine	Potassium Chloride	Uranyl Fluoride
Copper Sulfate	Hydrobromic Acid	Potassium Hydroxide	Uranyl Nitrate
Cottonseed Oil	Hydrochloric Acid	Potassium Phosphate	Urea
Developing Fluids	Hydrofluoric Acid	Propylene Glycol	Varnish
Dichlorobenzyl Chloride	Hydrogen Peroxide	Propylene Oxide	Whiskey
Diesel Oil	Isopropyl Alcohol	Sea Water	Wine
Diethyl Ether	Jet Fuel	Silicon Dioxide	Wort
Ethyl Acrylate	Kerosene	Sodium Acetate	Zinc Bromide
Ethyl Alcohol	Latex	Sodium Bisulfite	Zinc Chloride
Ethyl Benzene	Lubricating Oils	Sodium Carbonate	Zinc Sulfate
Ethyl Ether	Magnesium Acetate	Sodium Chloride	
Ethylene Dichloride	Magnesium Chloride	Sodium Cyanide	

Electronic DENSITROL® Technology & Application

DENSITROL™ Users

Automotive

General Battery
General Motors
General Tire
B.F. Goodrich

Chemicals

American Cyanamid Co.
BASF Wyandotte Corp.
J.T. Baker Chemical Co.
Ciba-Geigy Corp.
Diamond Shamrock Corp.
Dow Chemical U.S.A.
Dow Corning Corp.
E.I. DuPont de Nemours & Co., Inc.
Ethyl Corp.
FMC Corp.
W.R. Grace & Co.
Hercules, Inc.
Hooker Chemical
ICI Americas, Inc.
Koppers Co., Inc.
Mobay Chemicals, Inc.
Mobil Chemical Co.
Monsanto Chemical Co.
Occidental Chemical Corp.
Olin Corp.
Onyx Chemical Corp.
PPG Industries, Inc.
Purex Corp.
Rohm & Haas Co.
Shell Chemical Co.
Stauffer Chemical Co.
Tennessee Eastman Co.
Thiokol Corp.
Velsicol Chemical Corp.
Witco Corp.

Consumer Products

Becton-Dickinson & Co.
Burlington Industries
Coburn Optical Industries, Inc.
Colgate-Palmolive
3M

Electronics

AT&T Technology
AMP Inc.
Bell Laboratories

Digital Equipment, Inc.
Electrovert, Inc.
Hewlett-Packard Co.
IBM
RCA Corporation
Texas Instruments, Inc.
Timex Computers, Inc.
Western Electric Co.

Engineering

Babcock & Wilcox
Fluor Corp.
The Graver Co.
Stone & Webster

Food

Adolph Coors
Archer-Daniels-Midland
CPC International, Inc.
Cargill, Inc.
General Foods
Kraft, Inc.
Paul Masson
Pabst Brewing Co.
Ralston Purina Co.
Joseph E. Seagram
Hiram Walker & Sons, Ltd.

Industrial Products

Carrier Corp.
United Technologies Corp.
Westinghouse Electric Corp.
John Zink Co.

Instrumentation Systems

Ametek, Inc.
Fischer & Porter Co.
The Foxboro Co.
Honeywell, Inc.
Johnson Controls, Inc.
Rockwell International Co.

Metals & Mining

Allegheny Ludlum Steel Corp.
Armco, Inc.
Engelhard Corp.
Kennecott Corp.
Phelps Dodge Corp.
Teledyne Wah Chang
United States Steel Corp.

Petrochemical

Arco Chemicals
B.P.
Exxon Co.
Getty Oil Co.
Halliburton Services
Mobil Oil Corp.
Tenneco Oil Co.

Pharmaceutical

Hoffman-LaRoche
Eli Lilly & Co., Inc.
Merck & Co., Inc.
Miles Laboratories, Inc.
Pfizer Inc.
G.D. Searle & Co.
Upjohn Co.

Photographic

Eastman Kodak
Polaroid Corporation

Plastics

Borg-Warner Chemicals
Celanese Plastics & Specialties
Cincinnati Milacron
General Electric Co.
Pennwalt Corp.

Power

Detroit Edison
Georgia Power
Niagara Mohawk Power CO.
Pennsylvania Electric Co.
Public Service of New Mexico
Public Service Electric & Gas

Pulp/Paper

Georgia-Pacific Corp.
Great Northern Paper Co.
Hallmark Cards, Inc.
Union Camp Corp.
Weyerhaeuser Co.

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