

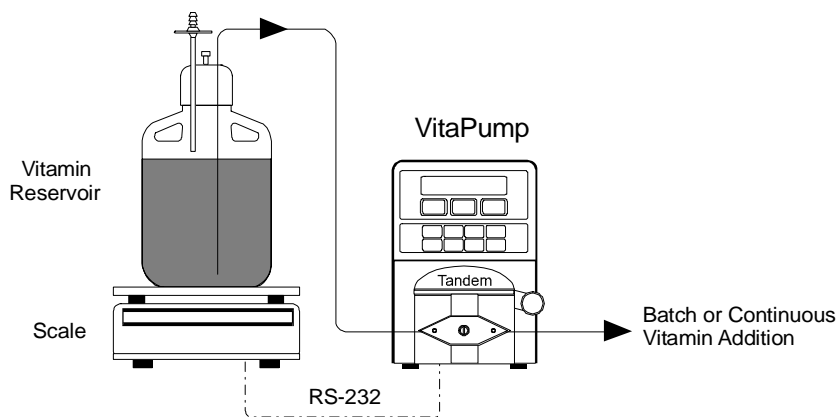
Improved, High Accuracy Vitamin Fortification of Fluid Milk with Documentation of Vitamin Usage and Alarms

SUMMARY:

SciLog has developed an **automated vitamin metering system (“VitaPump”)** specifically designed to meet the vitamin fortification requirements set forth in the **PMO Appendix “O” Recommendations** of the milk processing industry. The system consists of a SciLog smart pump and a scale. The vitamin reservoir is placed on the scale, the smart pump meters the vitamin solution by weight at a user-defined mass-flow rate (grams/min).

The pump/scale combination provides a high accuracy metering capability (without need for pump calibrations) and enhanced monitoring of vitamin usage during fluid milk processing. The VitaPump provides real-time documentation (printout) of vitamin usage rates.

The VitaPump system has been used for metering of vitamins D, A & D and E in batch as well as in continuous, milk processing applications. **Typical precision and long-term accuracy are better than 0.5%.**



FEATURES:

The amount of dispensed vitamin as well as the long-term vitamin usage rate are displayed and printed out. The VitaPump system will automatically alarm if the selected pump rate cannot be maintained, e.g. the vitamin reservoir has run empty. The VitaPump system can be remotely controlled by a PLC using an external contact closure. Alarm and Status signals are also available to the PLC via the included cable set. (These signals are 5 VDC TTL output, and require a solid state relay or appropriate connection to the PLC.)

Vitamin metering data is updated and printed out at programmable time intervals. Alternatively, the VitaPump system can be controlled by an external PC; thus all vitamin metering data can be displayed and archived on your PC. The VitaPump system can be stopped at any time and a new vitamin metering rate can be remotely uploaded from the PC.

Three (3) different pump head options are available: A **peristaltic pump head** using flexible pump tubing (food grade) provides a low-cost, reliable vitamin pumping capability. A **magnetic gear pump** (material of construction; stainless steel and Teflon) provides a pulse-free vitamin metering at pump rates of 50-500 grams/min with line pressure of up to 50 psi. An inert **piston pump head** (materials of construction: 316 SS and ceramic) is used for high-precision vitamin metering in the 0.5 to 40 grams/min range.

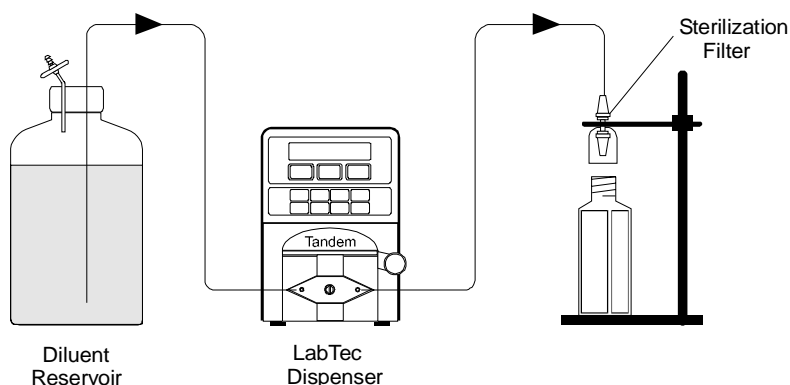
ADDITIONAL PRODUCTS:

LabTec™ Smart Dispenser: *Milk Testing, Automated Liquid Handling*

The LabTec Smart Dispenser automates repetitive dispensing and diluting of milk samples for bacteriological testing. Optional in-line filter sterilization of diluent. Two pump head options are available: Peristaltic pump head (50 to 1340 ml/min) for dispensing autoclaved, sterile solutions. Magnetic gear head (300 to 3700 ml/min) for dispensing non-sterile solutions or dispensing with in-line sterilizing filter. The Labtec has a number of different dispensing capabilities:

Volumetric Dispensing: Automated dispensing of milk or diluent into Dilution Bottles, e.g. the LabTec (with a TANDEM 1082 peristaltic head) dispenses 100 ml aliquots with a typical precision of 0.5 %.

Weight Ratio Dispensing: In this operational mode, the Labtec is connected to an electronic balance, i.e. OHAUS "Explorer" 4100, to automatically weigh and dilute milk samples. Example: for a sample weighing 11.0 grams, the LabTec will dispense 99.00 grams of diluent if the user-defined ratio is set at 9.00, thus providing a 10-fold dilution by weight. The LabTec will take 15 seconds to weigh the sample and to dispense the diluent; the typical dispensing precision is better than 0.3%.



ORDERING INFORMATION: SciLog Customer Service: 1-800-955-1993

CATALOG# DESCRIPTION:

- | | |
|--------------------|--|
| 100-728VITA | VitaPump Vitamin Metering System comes with a TANDEM (Model 1081) peristaltic pump head mounted to a 160 RPM motor. Pump output ranges from 0.3 to 550 g/min. depending on choice of pump tubing. Includes: 6 Kg x 0.1gm resolution Metter Viper series balance; #14 Silicone Tubing; Thermal Printer; Interface cables for balance, printer, and PLC (for Remote Start/Stop, Alarm, and Status Signals). |
| 100-74QVITA | VitaPump Vitamin Metering System comes with a Q1SAN Piston pump head mounted to a 160 RPM motor. Pump output ranges from 0.5 to 40 g/min. depending on position of head. Includes: 6 Kg x 0.1gm resolution Metter Viper series balance; #17 Food Grade Tygon Tubing; Thermal Printer; Interface cables for balance, printer, and PLC (for Remote Start/Stop, Alarm, and Status Signals). |

Other Pump Head / Scale combinations are available. Contact SciLog with your needs.

AN 6001, Copyrighted. Last Updated 12/27/05 Last Reviewed: 12/27/05

SciLog Inc, 8845 S. Greenview Drive #4, Middleton, WI 53562-2562
Web: www.scilog.com Tel: 800-955-1993 Fax: 608-824-0509