

CANTY

PROCESS TECHNOLOGY

INFLOW™ - LAB DILUTION SYSTEM WITH STAINLESS STEEL HEATED BASIN

IDEAL FOR
TEMPERATURE
SENSITIVE
APPLICATIONS



HOW IT WORKS

The Lab Dilution System is used to run high-concentration samples and perform automated dilution based on advanced image analysis and particle classification. Base fluid such as water or oil is used as the diluent in this process. An embedded control system automatically operates valves and pumps to control dilution based on measured particle concentration. A high resolution Ethernet camera coupled with advanced optics and a fused glass flow cell allow for high precision particle analysis and size distribution. A machine learning classifier system can be trained for automated recognition of different particle types based on morphology.

The CANTY Lab Automated Dilution Particle Size Inflow System uses a 0-1/2" variable insertion measurement gap. This insertion is made possible by the Fuseview™ sight glass, which allows the optical fused pieces to be located in the center of the fluid stream, which is unique to the CANTY system. The fused glass seal contains no gaskets, ledges, or steps allowing the highest velocity, representative sample and keeps the sensor clean, even in the harshest of environments (crude oil, drilling mud, etc.). The Core unit contains the power supply, switch, and Vector Control Module (VCM) all in one space-saving housing. The VCM is a small fan-less solid state embedded processor that has CANTYVISION™ software pre-installed. It is designed to keep project costs low and to also eliminate the need for a computer. The VCM controls the dilution rate based on particle count and concentration so there is no need for continuous operator input. The operator screen makes it simple for lab personnel and operators to see what is going on in real time with visual verification.

Unlike laser analysis which requires the dilution amount to be exact every time, the CANTY system requires a minimum dilution but no maximum dilution. This is demonstrated by the basin on top. It is achieved because visual measurement detects the particles unlike laser which detects light scattering.

FEATURES

- Provides both a real-time, in-flow measurement and a continuous real-time view of the product
- Software controlled auto-dilution; removes the human error
- Stand-alone analysis system; no need for installing software on a customer PC
- Video alarms to record irregularities in samples
- Utilizes CANTY Cold Light and Fused Glass
- Available In NEMA4 / IP66
- All data stored on Excel files for later use and easy storage
- Particle distribution by major, minor diameter, area, and perimeter
- Robust stainless steel locking sample reservoir allows for temperature and pressure control of material
- Heater controller with system control box



ADVANTAGES

- Real-time particle size and shape analysis
- Objective SHAPE analysis to give a competitive edge to customers
- Eliminate errors associated with sieves
- Eliminate errors associated with laser dilution
- No drying needed to run particle size analysis
- Reduce analysis waiting time for operators
- Detects gas bubbles unlike laser, which read gas bubbles as particles
- **Don't waste time drying samples!**

MATERIALS / MEDIA / APPLICATIONS

- Slurry Analysis
- Sands
- Mining (tailings, sand, etc)
- Powders
- Pharmaceuticals
- Chemical
- Pellets
- Aggregates
- Replaces existing lab screen/sieves

CANTY

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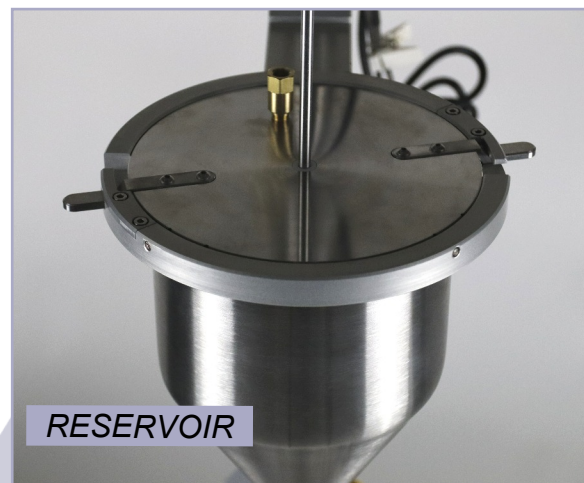
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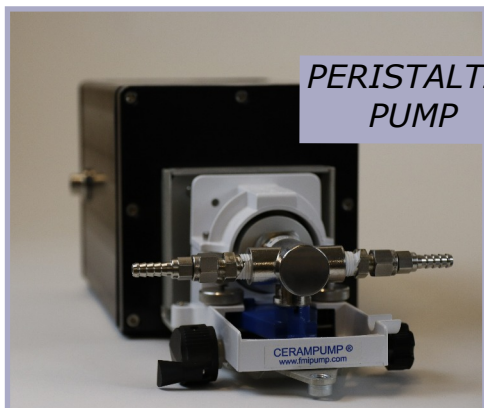
SYSTEM COMPONENTS



AGITATOR



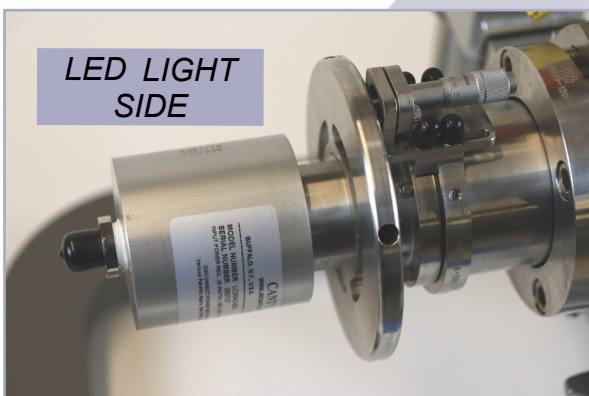
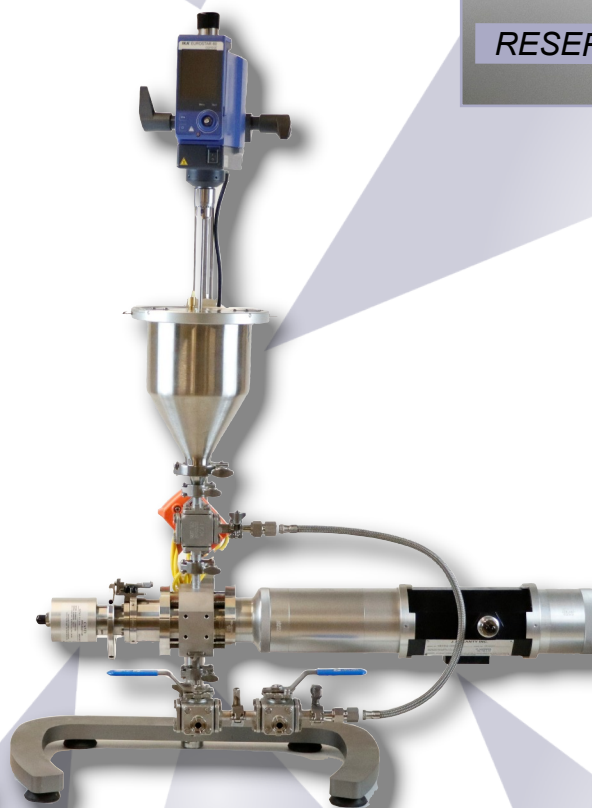
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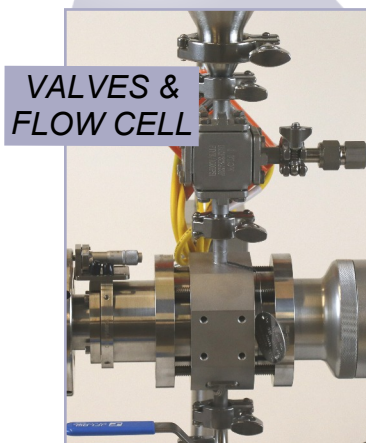
PERISTALTIC PUMP



CORE UNIT
PROCESSOR



LED LIGHT
SIDE



VALVES &
FLOW CELL



CAMERA SIDE

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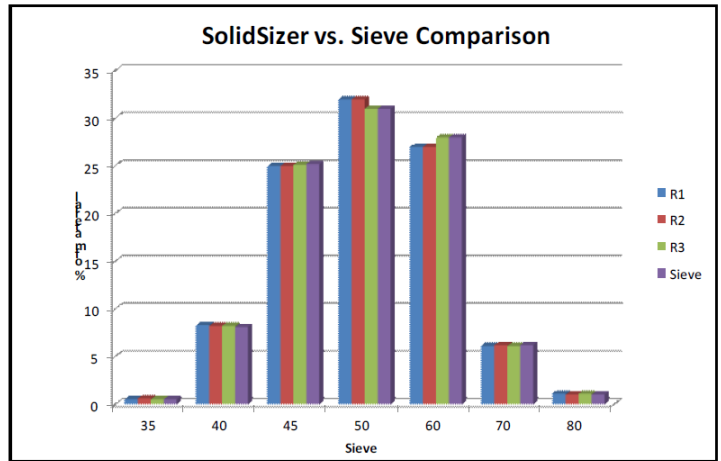
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TECHNICAL INFORMATION



Ordering Information

HOW TO ORDER: Select the appropriate symbols and build a part number :

EXAMPLE:

LDH - V O 6 A 1 1 1 A A 1 F

SYSTEM

LDH - Lab Dilution System, Heater

PARTICLE SIZE RANGE

6 - Standard optics

CONNECTION TYPE

A - Tri Clamp®
C - Flanged

CONNECTION SIZE

1 - 1/2"

Consult factory for other sizes available

WETTED METAL MATERIAL

1 - 316L Stainless Steel
2 - Hastelloy® C276 or equal
3 - Hastelloy® C-22® or equal

INTERNAL SEAL MATERIAL

B - BUNA **N** - NEOPRENE
V - VITON® **K** - KALREZ®
S - SILICONE **C** - CHEMRAZ®
E - EPDM **F** - FLUOROSILICONE

ENVIRONMENTAL RATING

1 - NEMA 4 WEATHERPROOF
2 - IP 66

PRESSURE RATING

A - 150 PSI **D** - 10 BAR

INPUT POWER

A - 120 V AC / 60Hz / 250W
B - 230 V AC / 50Hz / 250W

NON-WETTED METAL MATERIAL(PRESSURE BEARING)

1 - 300 Series Stainless Steel



Canty CoreUnit™



Inline Systems Available - see TA11500-1043

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*Canty reserves the right to upgrade to Hastelloy® C family of alloys or equal at their own cost

TECHNICAL INFORMATION

DELIVERABLES:

- Canty's 1/2" Tri-Clamp® InFlow™ with High-Resolution Analysis, with Digital Knob Control Zoom & Focus Adjustment for Repeatability of Set-ups.
- Digital Software-Controlled Overhead Mixer
- Temperature controlled stainless steel reservoir with Easy Tri-Clamp® Connector for Easy Removal
- Actuator with Three Way Valve; this is to Dilute & Rinse the System
- CoreUnit™ with CANTYVISION™ Embedded VCM for Stand-Alone Analysis without the need for customer-supplied PC
- Quick-Connect Cabling to Allow Customer to Move Unit in and out of Fume Hoods and Ease of Location Changes

SYSTEM FOOTPRINT:

Lab system with pump = 36"(L) x 16" (W) x 48" (H)

Heating system control box = 8" (L) x 5" (W) x 4" (H)

VCM Core unit with monitor = 24" (L) x 22" (W) x 25" (H)