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BECKMAN COULTER

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Christopher Novak
Global Product Manager
Fort Collins, CO



MoFlo[®] Astrios[™]

- Biosafety design from the start
- IntelliSort[™] II
- 7 lasers – 7 pinholes
- CyClone[™] precision
- Proven fluidics and electronics
- Software upgrades



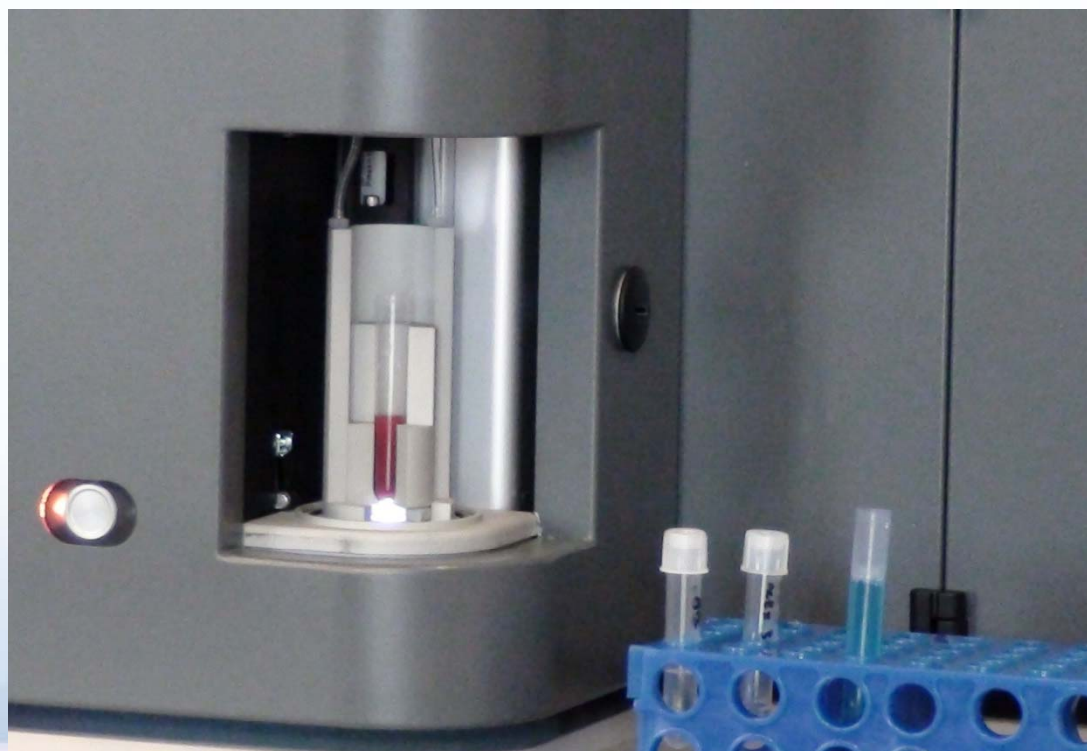
Class II Biosafety Cabinet



- Touch Screen mounting
- Designed for BSL II Hood
 - Micrometers, Cover
 - Aerosol Evacuation System
 - Sort chamber door
 - Work flow
- Certified at Installation

SmartSampler™

- Aerosol containment
- Input tube flexibility (0.5mL to 50mL)
- Temperature control
- Sample agitation
- Bubble detection



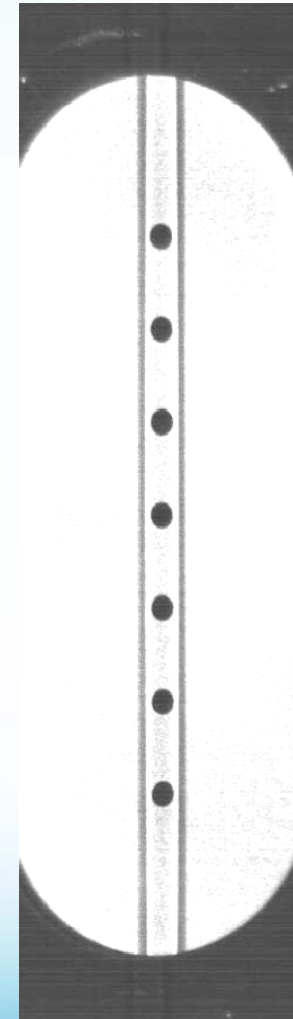
Sort Chamber Design

- Easily cleanable
- Aerosol containment
- Charge plate design
- Sort Rescue
- R-Theta CyClone arm



7 Lasers - 7 Pinholes

- 355, 405, 488, 532, 561, 592, 640
- Reduces need for compensation
 - Spatially separated lasers decrease fluorescence overlap
- Eliminates reconfigurations
 - Move PMTs without system realignment
- Complex polychromatic sorting



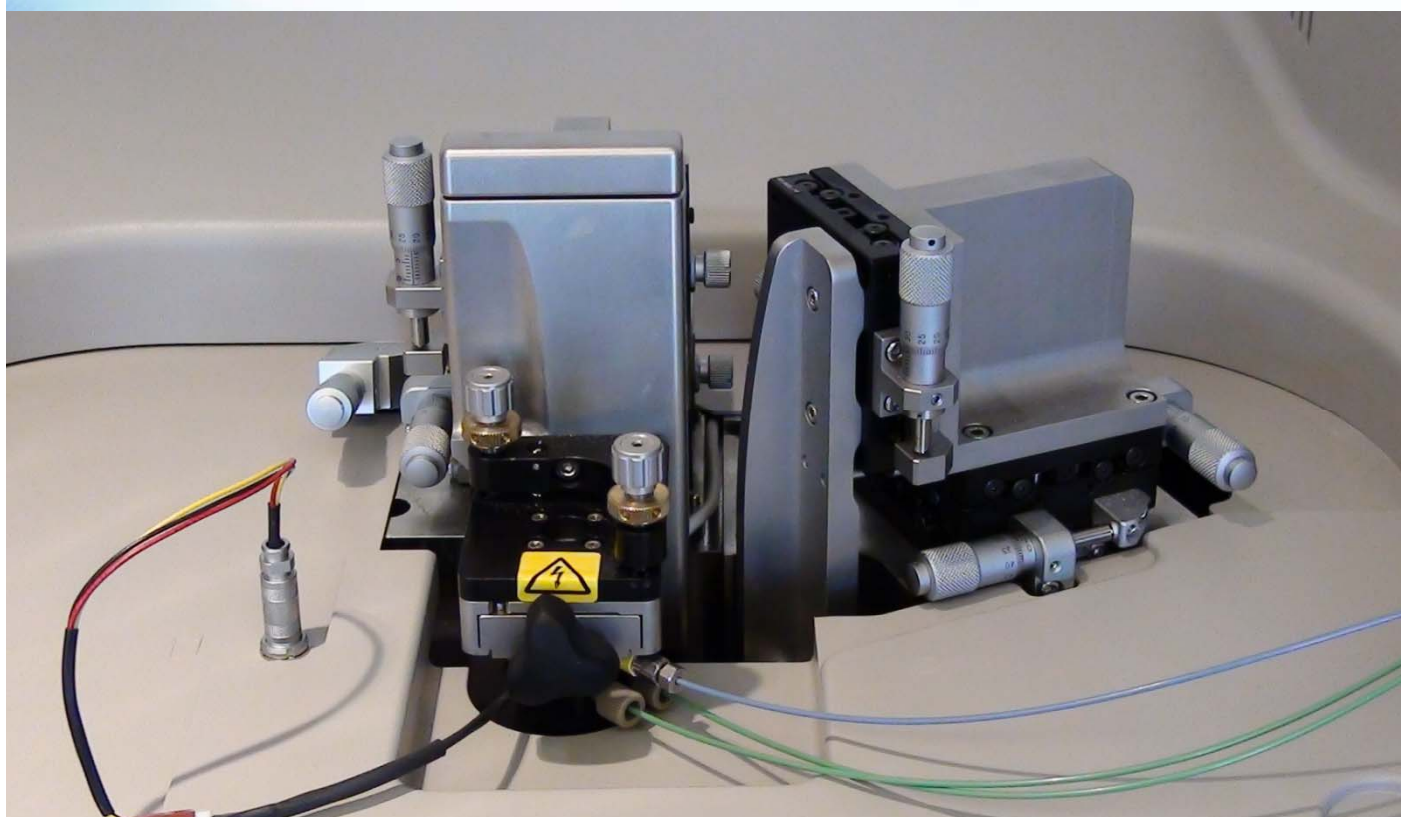
Precision Optical Device

- 49 PMT positions (32 simultaneous)
- PMTs are “plug ‘n’ play”
- Optimized filter sets for each laser
- Core lab flexibility



Nozzle Alignment

- Multi-Fiber BSO
- Free-Space True UV
- 7 Lasers - Two Alignment Stages
- Quick Release Nozzle



Sort Collection

- 6-Way x 5mL or 1.5mL
- 2-Way x 15mL or 50mL
- 1x 50mL and 3x 5mL
- Single Cell Deposition
- Up to 1536-well plates
- Custom slides



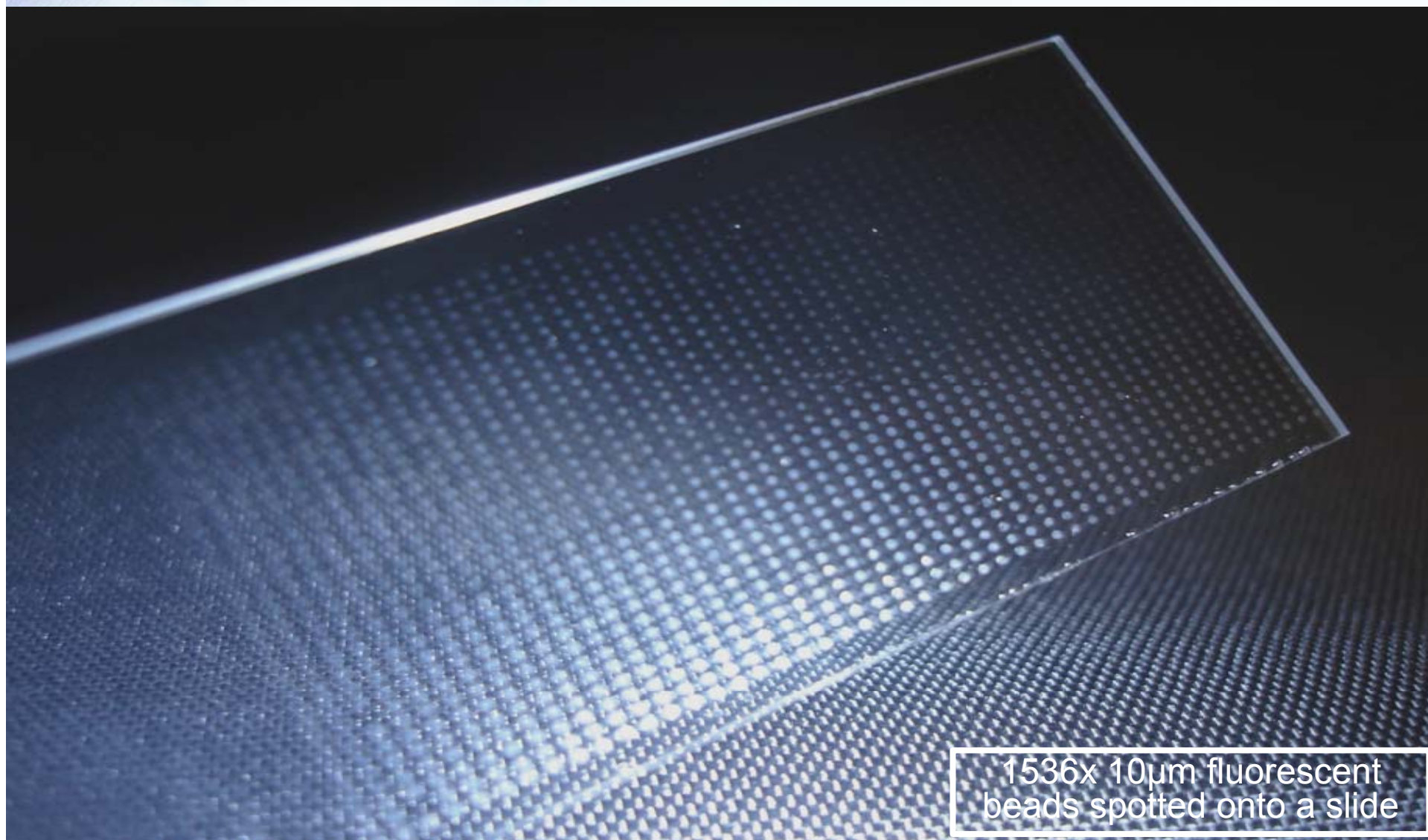
MoFlo Fluidics

- Stable fluidics are critical for sorting (droplet formation), longevity of a systems use, and precision (stability) of the sort
- Today: MoFlo Legacy systems routinely sort 12 hours per day – 15 years after launch (May, 1995)
- MoFlo XDP and MoFlo Astrios fluidics are largely unchanged for that reason

Fluidics Design

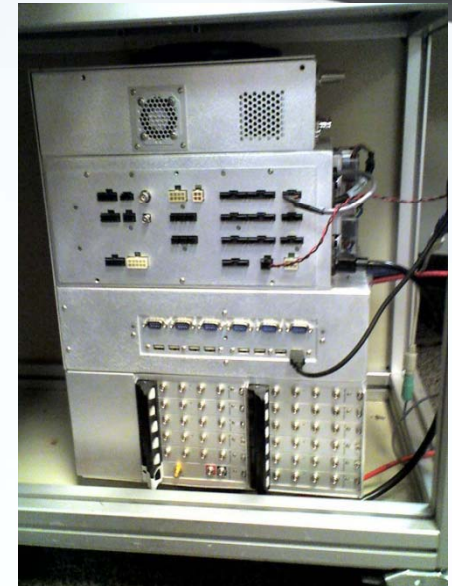


CyClone Precision – Fluidic Stability



Electronics

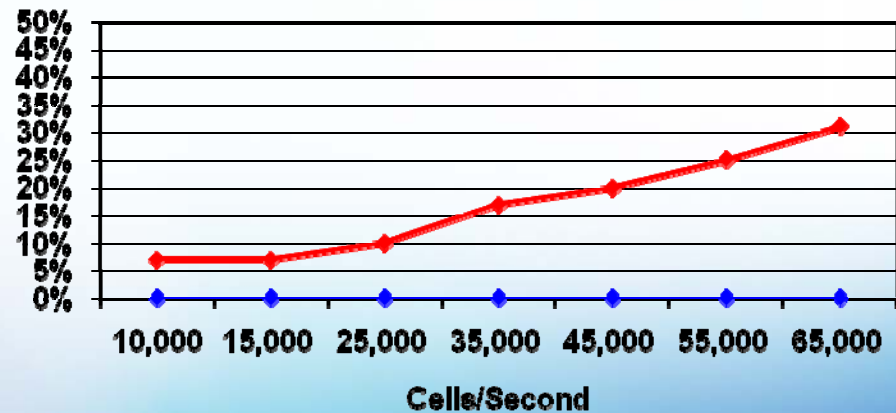
- Largely unchanged from MoFlo XDP
 - Substantial update from MoFlo Legacy
- Zero dead time
- 100 MHz sampling
- 5-decade; 32 bit processing



Validated Performance

- >70,000 EPS sorting
- >100,000 EPS analysis

Hard Aborts

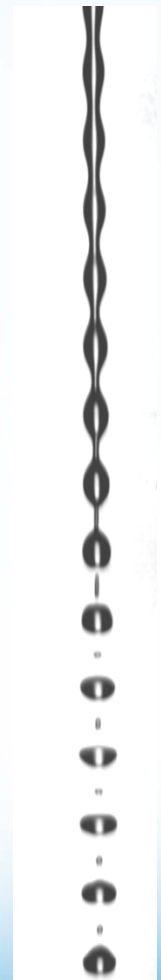


—◆— MoFlo hard aborts —◆— XDP hard aborts

IntelliSort™ II

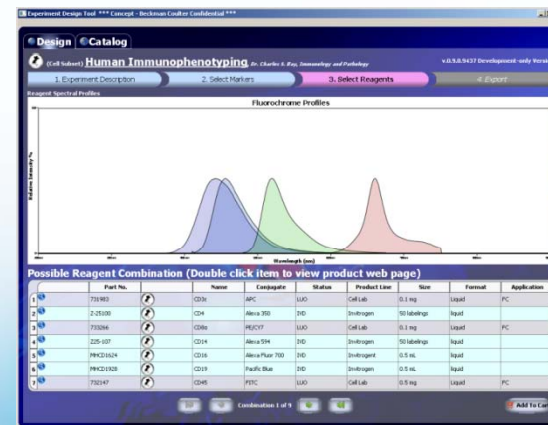
- Find beam spot
- Frequency scan to determine optimal break-off
- Determine drop delay and monitor

- Completely bead-less drop delay
- No foreign particles introduced into sample line
- 3-5 minutes in total



Software Updates

- Summit Software™ v 6.0
- Auto Start Up
- Auto QC
 - Sets laser delay for all lasers
 - Adjusts PMT voltage to put peaks in channel 128
 - Compares CV's and PMT voltages to pre-determined values
- Experiment Designer™ and Spectrios™
 - Available on www.CoulterFlow.com



MoFlo Astrios

