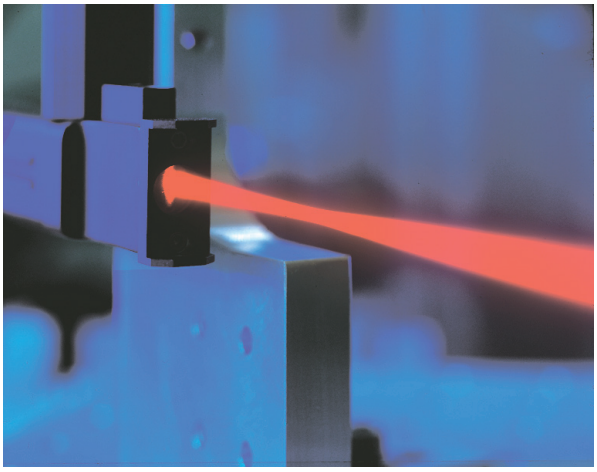
CYTOMATION
Better Tools. Good Science.



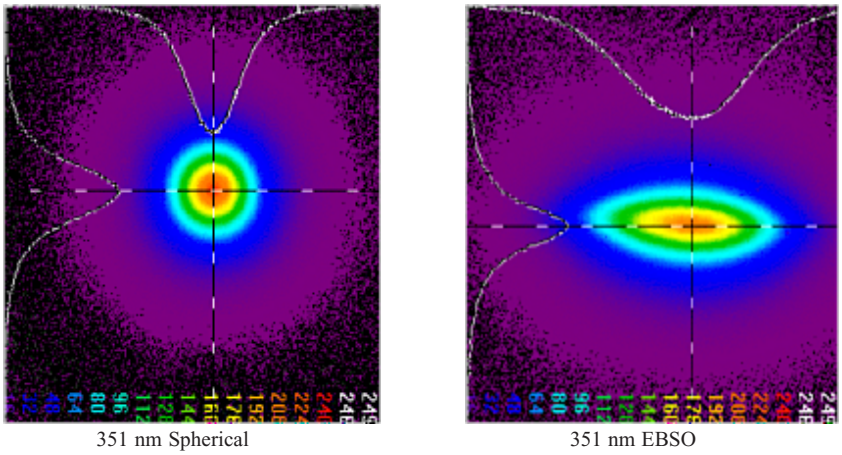
The Elliptical Beam Shaping Optics focus the laser beam to an elliptical spot at the inspection point. This reduces cell-to-cell illumination variations and minimizes optical cross-talk.

SUPERIOR ENERGY DISTRIBUTION

Spherical optics illuminate the core sample stream with a circular energy distribution. This circular energy distribution is not optimal for cells flowing near the edge of the sample stream, especially when running dilute samples at a high differential pressure. With the Elliptical Beam Shaping Optics (EBSO), the energy distribution is tightly focused into an ellipse with an aspect ratio of 1:5 (Figure 1). This elliptical energy distribution ensures optimal irradiation of passing particles, thereby lessening the effect of sample pressure on %CV.

GREATER SENSITIVITY WITH LESS LASER POWER

The EBSO provide value for cost by providing comparable fluorescent signal intensity while using less laser power. At the 633nm wavelength, the EBSO provides greater than 3.5 times more illuminating laser energy on the sample than traditional spherical optics.



351 nm Spherical　　351 nm EBSO

Figure 1: Typical focal spot intensity profile data using spherical and EBSO units.

GREATER DOUBLET DISCRIMINATION SENSITIVITY

The EBSO shorten pulse lengths. For experiments using highly concentrated particles or actively dividing cells, these short pulse lengths directly correspond to increased doublet discrimination sensitivity. The EBSO can allow a substantial increase in the resolution of doublets.

REDUCTION IN CROSS-TALK

The elliptical energy distribution produced by the EBSO allow the MoFlo to become even more resistant to intra-laser optical cross talk. An 80% reduction in vertical beam size virtually eliminates the potential for fluorescent signal contamination by an adjacent laser. With this improved spatial separation, filter selection becomes easier than ever before.

EBSO TECHNICAL SPECIFICATIONS

EBSO includes (for each option):	EBSO module
	Focusing lens light tube
	Chamber light tube
EBSO Options:	351, 488, 488A and 633 nm (see below for details)
Typical Ellipse Aspect Ratio:	1:5 (vertical:horizontal)
Typical Footprint:	15 x 60 µm

EBSO Option	Associated Lasers
351 nm	Large-frame, water-cooled Argon-ion lasers with beam diameter between 1.4 and 1.7 mm
488 nm	Large-frame, water-cooled Argon-ion lasers with beam diameter between 1.4 and 1.7 mm
488A nm	Small-frame, air-cooled Argon-ion lasers with beam diameter less than 0.75 mm
633 nm	HeNe lasers, dye-head lasers, and large-frame, water-cooled Krypton-ion lasers with beam diameter of approximately 1.2 mm

Cytomation, Inc. is a privately held bio-technical instrumentation corporation specializing in high-performance, high-speed flow cytometer analyzers, sorters and upgrades. Our mission is to design, produce, and service the finest flow cytometers and cell sorters in the world — unparalleled in performance, accuracy, versatility, reliability and speed. MoFlo, our premier flow cytometer, is a modular system that is easily upgraded whenever requirements change or new modules become available.

North America
Cytomation, Inc.
4850 Innovation Drive
Fort Collins, CO 80525
USA
Telephone: 970.226.2200
Facsimile: 970.226.0107
E-mail: info-northamerica@cytomation.com

Europe
Cytomation Bioinstruments GmbH
Engesserstrasse-4
79108 Freiburg im Breisgau
Germany
Telephone: 49.761.559.7370
Facsimile: 49.761.559.7375
E-mail: info-europe@cytomation.com

Australasia
Cytomation PTY LTD
60-66 Hanover Street
Fitzroy, Vic 3065
Australia
Telephone: 613.9417.4577
Facsimile: 613.9417.2987
E-mail: info-australasia@cytomation.com

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