

POMONE WEIGHT SIZER

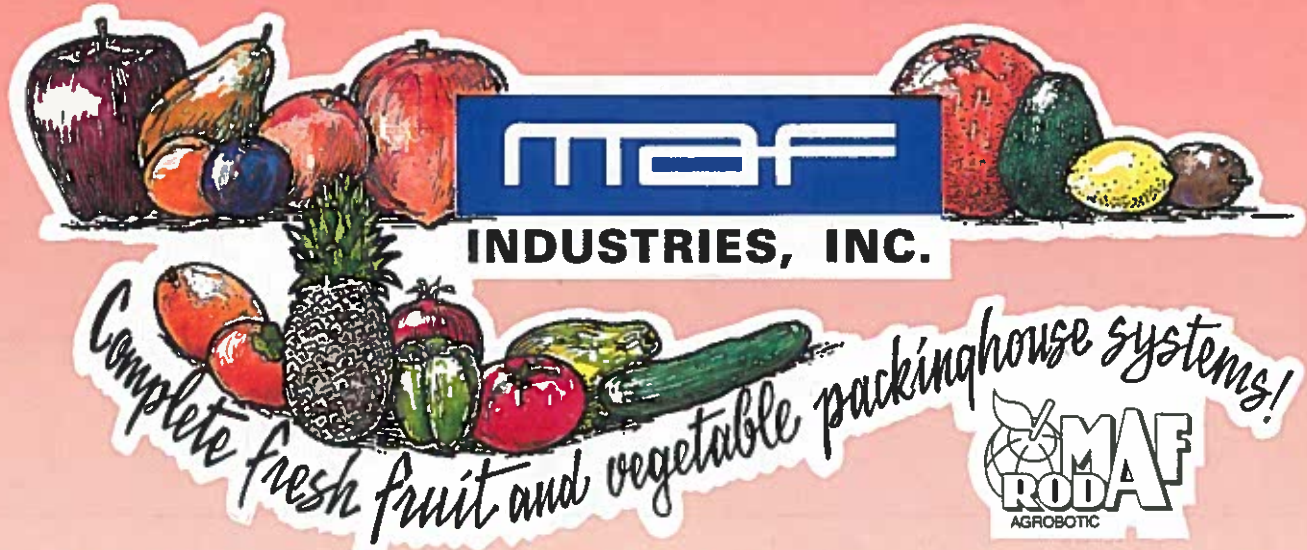
The Pomone sizer features a unique conveyor with roller singulator and a patented, very gentle transfer to the main conveyor without any dropping. The weight system employs a patented system to gently lift the fruit free of the main conveyor for accurate weighing.

- * 100 mm. cup pitch for high efficiency
- * Wet or dry singulation (from flume or belt)
- * Various delivery systems including brush deliveries
- * Compact 2 lane system complete with pack tables and carton conveyor available
- * Larger systems up to 12 lanes available
- * Software for outlet control
 - feedback system to regulate flow to multiple outlets
 - count fill control
 - batch fill by weight
- * Density measurement by comparing weight to optical size
 - separates fruit into multiple density classes

OPTISCAN 2000 VISION SYSTEM

The OPTISCAN 2000 uses one CCD camera for each two lanes to provide better resolution and therefore better accuracy and efficiency than any other existing system. Cameras are installed above the singulation section where fruit is separated into single rows. The fruit is rotated under the camera to allow a view of its total surface area. This operation can be seen in real time on the computer VGA color monitor, either in "real" or "false" color. Data is then digitally analyzed to provide unexcelled sorting accuracy for all types of apples, pears, and citrus; even with variegated fruit (Jonagold, Gala, Cox, etc.), as well as identifying blush or sunburn.

- ** Electronic color sorting by CCD cameras, allowing detection of: base color, secondary color (e.g. % red in a GALA), and defects such as russetting, sunburn, and scald.
- ** Optic sizing of all round fruit: by Diameter, Volume, or Area.
- ** Shape sizing by selecting a shape ratio.
- ** User friendly software allowing custom adjustment of main color, background color, color defect #1, color defect #2
- ** Various types of fruit: Apples (particularly dual colored apples like Jonagold, Booskop, Gala, Fuji, Elstar, and deep red apples such as Washington, etc.), stone fruit, pears (Packhams, Williams, D'Anjou), citrus (soft citrus, oranges, lemons), and tomatoes.
- ** The OPTISCAN 2000 can be implemented on any MAF electronic sizer: 3-Point weight Sizer, Highway Sizer, or the new gentle handling Pomone Weight Sizer.



36470 Hwy. 99 • P.O. Box 218 • Traver, CA 93673 • (800) 835-2905 (209)-897-2905 FAX (209) 897-3422

TECHNICAL FEATURES

- ** Sony industrial-professional CCD cameras with 128,000 degrees of color separation.
- ** Virtually the total surface of the fruit is examined by the camera. One complete rotation of each fruit can be viewed on the screen, in real time.
- ** Automatic camera adjustment.
- ** PC 486 computer, printer, full color VGA monitor display of vital information, and Grower Record Keeping.
- ** Labeling (stickers) interface, for selective labeling.

COLOR SORTING PARAMETERS

Custom adjustment of color sorting parameters is accomplished with our user-friendly software. Your specific fruit varieties' "palette of colors" will consist of:

- ** Main background color (the yellow or green color of a red apple for example).
- ** Secondary color (allowing you to sort our different percentages of red, or blush).
- ** Color defect: Examples: #1 = for detection of sunburn on Granny, russeting, dark spots on citrus (automatically defined by the software)
#2 = for defect such as scald, light spots on citrus (automatically defined by the software)

Note: Up to 4 categories of defects may be specified.

OPTIC SIZING PARAMETERS (WITH DIAMETER OPTION)

- ** Equatorial Diameter (maximum viewed or average calculated)
- ** Maximum Diameter (maximum viewed or average calculated)
- ** Maximum Area: highest value calculated
- ** Average Area: Calculated with all values of areas determined
- ** Density: by entering a density ratio, and according to an estimate of volume given by combination of viewed Area and Diameter, Weight can be calculated allowing management of the product by weight (especially useful for bushel or bulk packing).
- ** Shape Recognition: by selecting a shape ratio, separation of round and elongated fruit can be accomplished. Classes can be determined according to length.

PERFORMANCE

- ** 7 cups/second for weight accuracy of ± 2 grams.
- ** Working speed: 10 fruit/second/lane/maximum
- ** Sizing accuracy: ± 1 mm. on diameter at 10 fruit/second.
- ** 90% of fruit surface is scanned.

OPTISCAN 2000

on Apples

APPLICATIONS

- * Electronic color sorting by CCD cameras, allowing detection of: base color, secondary color (eg. % red in a GALA) and some defects such as russetting, & sunburn.
- * Optic sizing of all round fruit: by Diameter, Volume, or Area.
- * Weight simulation is possible by entering a density ratio.
- * Shape sizing by selecting a shape ratio.
- * User friendly software allowing custom adjustment of main color, background color, color defect #1, color defect #2.
- * Various types of fruit: Apples (particularly dual colored apples like Jonagold, Booskop, Gala, Fuji, Elstar, and deep red apples such as Washington etc.), stone fruit, pears (Packhams, Williams, D'Anjou), citrus (soft citrus, oranges, lemons), and tomatoes.
- * The OPTISCAN 2000 can be implemented on any MAF electronic sizer: 3-Point Weight Sizer, Highway Sizer, or the new gentle handling Pomone Weight Sizer.

WORKING PRINCIPLE

The OPTISCAN 2000 uses one CCD camera for each two lanes to provide better resolution and therefore better accuracy and efficiency than any other existing system. Cameras are installed above the singulation section where fruit is separated into single rows. The fruit is rotated under the camera to allow a view of its total surface area. This operation can be seen in real time on the computer VGA color monitor, either in "real" or "false" color. Data is then digitally analyzed to provide unexcelled sorting accuracy for all types of apples, pears, and citrus, even with variegated fruit (Jonagold, Gala, Cox, etc.), as well as identifying blush and sunburn.

TECHNICAL FEATURES

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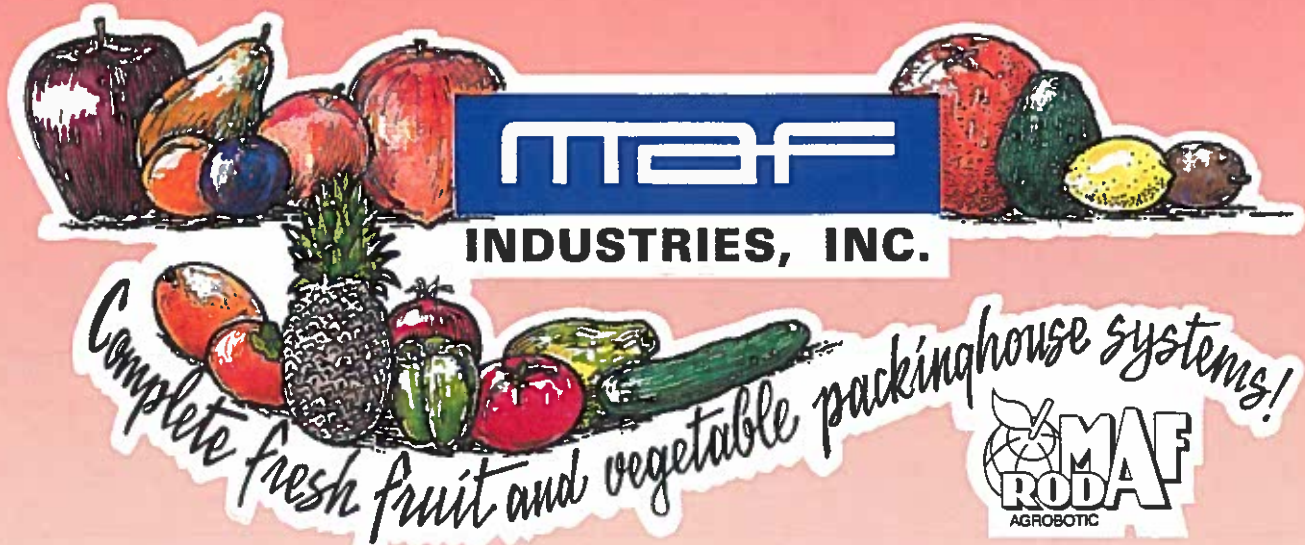
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- * Secondary color (allowing you to sort out different percentages of red, or blush).
- * Color defect: Examples - #1 = for detection of some sunburn and russetting on Golden and Grannys.
#2 = for defects such as scald, light spots on citrus (automatically defined by the software).
Note: up to 4 categories of defects may be specified.

OPTIC SIZING PARAMETERS (WITH DIAMETER OPTION)

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- * Shape Recognition: by selecting a shape ratio, separation of round and elongated fruit can be accomplished. And, classes can be determined according to length.

PERFORMANCE

- * Working speed: 10 fruit / second / lane.
- * Sizing accuracy: plus or minus one millimeter on diameter at 10 fruit / second.
- * 90% of fruit surface is scanned.



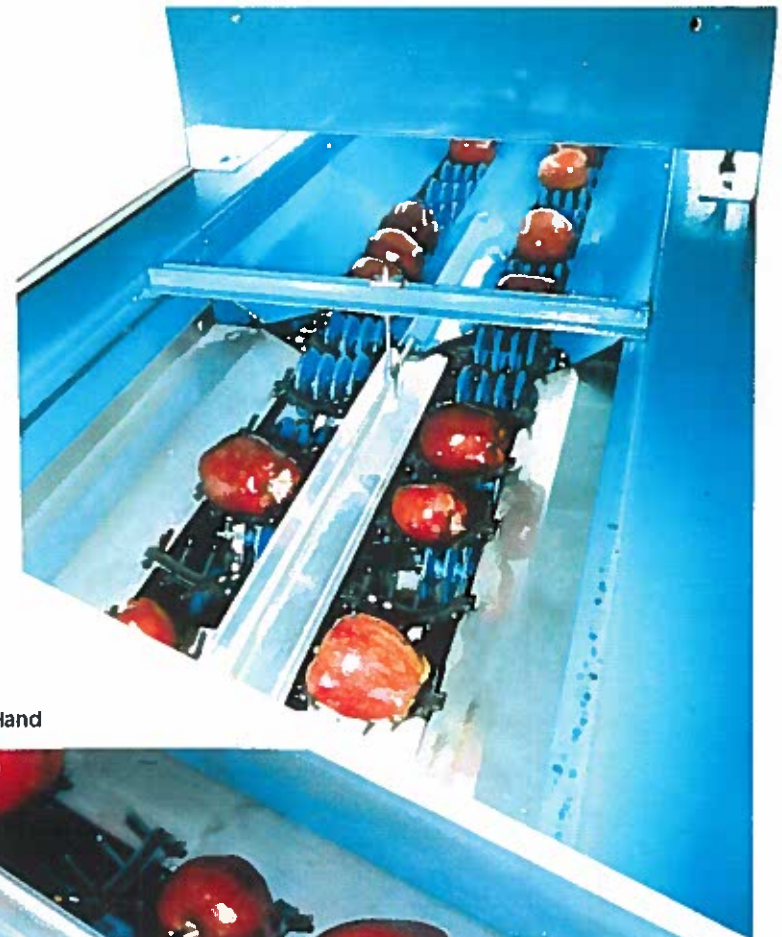
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POMONE

Optical & Weight Sizer

Gentle Transfer
From
Singulation Rolls
To
Transport Hand



Weight Sensing Cradle
Delicately Lifts Fruit From Transport Hand

- * 3.975" and 4.5" cup pitches available
- * Various delivery systems including brush deliveries
- * Available from 2 lanes to 8 lanes
- * Density measured by comparing weight to optical size
- * Count fill or Batch fill by weight
- * Separate colors by % Red, average color
- * Weight sizing accurate to ± 1 gram per fruit
- * User friendly Software allows custom color adjustment



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