## PRE-POSITIONING FOR CYLINDRICAL OBJECTS

CENTROR checks the angular and transversal position of cylindrical objects and carries out a perfect positioning before printing. CENTROR ensures a great register precision when sequential printing processes are executed.

## BENEFITS

Thanks to CENTROR it is possible to make the pieces registration without any mechanical device. This solution ensures the increasing of the machine productivity and the accuracy of the printing register.

## CENTROR/L

CENTROR/L analyzes the sidewall surface of an object in rotation to perform a real time orientation. Plastic tubes, jars and bottles are the typical objects that require this special solution. Thanks to a dedicated lighting source the system can be integrated in the glass printing machines (CENTROR/G). The reference mark could be the following ones:
○ relief
○ seem of glass or plastic
○ screw thread
○ previously printed decoration

## CENTROR/M

CENTROR/M analyzes the top or bottom surface of the object to perform a real time orientation. The system ensures a perfect register on plastic and glass bottles, mascaras, coins, CDs and many other products.
CENTROR/M-Tube is dedicated to the registration of plastic tubes. The system analyzes a part of an already roughly oriented object in order to obtain the angular and longitudinal positioning with centesimal accuracy.

# TECHNICAL FEATURES

○ **APPLICATION FIELDS**
  glass industry and plastic industry
○ **MULTIPLE CAMERA CONFIGURATIONS**
  up to two
○ **POSSIBILITY TO INTEGRATE THE CENTROR**
  in the Spectro print inspection system
○ **LED LIGHTING SYSTEM**
○ **MULTIPLE ILLUMINATOR**
  back light, direct light, dark field
○ **MULTIPLE MACHINE COMMUNICATION MODULES**
  Rs232, Ethernet, Profibus and Modbus
○ **TOUCH SCREEN INTERFACE**
○ **EASY TO LEARN AND EASY TO USE GUI INTERFACE**
○ **FAST AND AUTOMATIC SET UP**
  new job can be started in a minute
○ **MEASUREMENT WITH SUB-PIXEL ACCURACY**
○ **DIFFERENT LOGIN LEVELS**
○ **OPERATING IN MS-WINDOWS OS**



# TECHNICAL DATA

|  | CENTROR/L | CENTROR/G | CENTROR/M | Centror/M-Tube |
|---|---|---|---|---|
| **Object** | Plastic bottles, mascara, jars | Glass bottles, glasses, jars, perfume bottles | Plastic bottles, mascara, jars, glass bottles | Tubes |
| **Camera** | Linear-Graylevel 1024 pixel | Linear-Graylevel 1024 pixel | Matrix-Graylevel 1280x1024 pixel | Matrix-Colour 1280x1024 pixel |
| **Field of view** | 100 mm | 100 mm | 100x100 mm | 40x30 mm |
| **Correction** | Angular, longitudinal | Angular, longitudinal | Angular | Angular, longitudinal |
| **Range of correction** | 360 degrees +/-5 mm | 360 degrees +/-5 mm | 360 degrees | +/-3 degrees +/-3 mm |
| **Object diameter** | 13-90 mm | 30-90 mm | 13-90 mm | 19-60 mm |
| **Angular resolution** | 0,1 degrees | 0,1 degrees | ND | 0,04 mm |
| **Longitudinal resolution** | 0,1 mm | 0,1 mm | 0,1 mm | 0,04 mm |
| **Angular accuracy** | +/- 0,03 degrees | +/- 0,03 degrees | +/- 1 degrees | +/- 0,01 degrees |
| **Longitudinal accuracy** | +/- 0,03 mm | +/- 0,03 mm | ND | +/- 0,01 mm |
| **Max Acquisition time** | 200 ms | 200 ms | 20 ms | 20 ms |
| **Max Elaboration time** | 100 ms | 100 ms | 400 ms | 100 ms |

Technical data and system specifications refer to the state at the time of printing. We reserve the right to modify them in the interest of a continuous program of further development.