FUTURA

MARK DIFFERENT

BRIDGE®

www.bridge-automation.com

Bridge launched on the market the topnotch
Laser Marking System Platform FUTURA.

Fully modular and flexible, FUTURA can be configured according to customer's needs. Internal developers and manufacturing engineers are constantly working on FUTURA Platform, to ensure incredibly high process stability and fastest cycle time with zero maintenance.

FUTURA models allow to mark In Line or Stand Alone all kind of PCBs (up to 1.000x700 mm) and Semicon Devices.

Bridge develops internally Innovative Laser Technologies to be integrated on FUTURA Platform as Laser Cleaning, Micro-Drilling, DBC Cutting, Metal Frame Cropping, Deflashing.

The Worldwide Distributors Network, fully trained to install, calibrate and support FUTURA, provide a valuable and Competent Support to all Bridge's Customers.

FUTURA, *mark different.*

FUTURA

LASER MARKING SYSTEM PLATFORM

F350	
Footprint	500x1.450x1.770 mm
Weight	450 Kg
Panel lenght	70 mm up to 420 mm
Panel Width	50 mm up to 350 mm

F700	
Footprint	1.200x1.450x1.770 mm
Weight	1200 Kg
PCB Length	100 mm to 1.000 mm
PCB Width	70 mm to 700 mm

F350L	
Footprint	1.000x1.450x1.770 mm
Weight	500 Kg
Panel lenght	70 mm up to 655 mm
Panel Width	50 mm up to 420 mm

BRIDGE

CO2 LASER
AVAILABLE ON 2 DIFFERENT OPTIONS

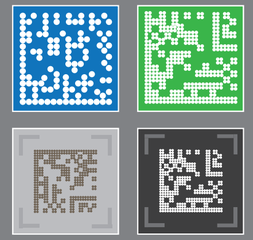
10 W

- Marks on all colours of solder mask
- Fast markings (avg time: 0.4 s per DMC)
- Doesn't mark on metal

30 W

- Allows solder mask removal - frequently requested on white PCBs

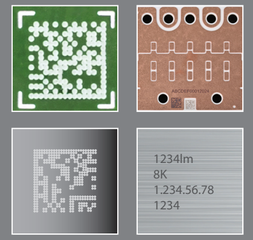
min. spot size: 125 µm



FIBER LASER
ALLOWS MARKINGS ON METAL AND PLASTIC SURFACES

- Marks on metal and plastic
- Allows solder mask removal to reveal copper layer on PCBs
- Doesn't mark on PCBs if there's no copper layer underneath the solder mask

min. spot size: 70 µm



KEY POINTS

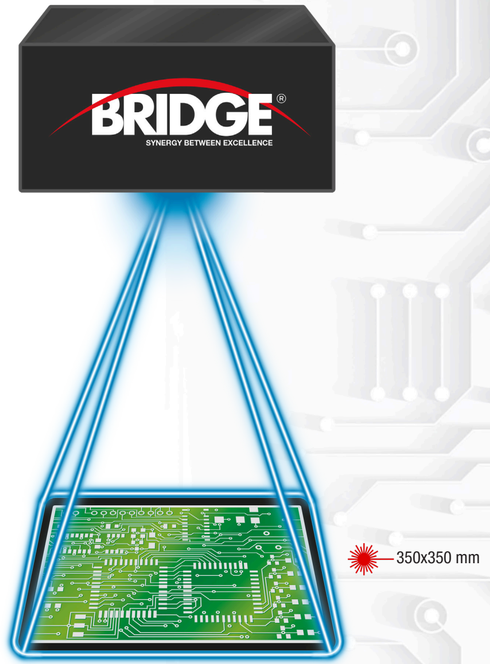
SPEED
CAMERA VIEW AND LASER ARE CONTROLLED BY THE GALVO SCANNER MOVEMENT

ZERO MAINTENANCE
COMPLETE ABSENCE OF MOVING AXES

PROCESS STABILITY
DOUBLE STOPPERS, CLAMPS AND BOTTOM SUPPORT FOR BENDLESS PROCESS;
NO INTEGRATED FLIP UNIT

SPEED ORIENTED PROCESS

1. NO AXES NEEDED: GALVO SCANNERS DIRECTS LASER AND CAMERA VIEW ALL AROUND THE FIELD 350x350 mm
2. AVG MARKING TIME FOR ONE 2D CODE: 0.4 s
3. AVG QUALITY GRADE EVALUATION FOR ONE 2D CODE: 0.5 s
4. MORE THAN 40% FASTER THEN CONVENTIONAL LASER MARKER MACHINE WITH X AND Y AXES



F350

STANDARD SOLUTION FOR THE ELECTRONIC MARKET

Compact Size
Machine Width: 500 mm

Max PCB size (Length x Width)
420x350 mm

Marking Area
350x350 mm

Transport PCB
2,5 ÷ 5 mm ESD belt

Laser Type
CO2 (fiber optional)

Consumption
< 1 Kw

FUTURA

F350L

LARGER VERSION FOR LIGHTING PRODUCTS

Larger Size
Machine Width: 1.000 mm

Max PCB size (Length x Width)
655x420 mm

Marking Area
650x350 mm

Transport PCB
2,5 ÷ 5 mm ESD belt

Laser Type
CO2 (fiber optional)

Consumption
< 1 Kw

FUTURA

F700

FOR **EXTRA** LARGE BOARDS

Larger Size
Machine Width: 1.200 mm

Max PCB size (Length x Width)
700x700 mm

Marking Area
650x700 mm

Transport
2,5 ÷ 5 mm belt

Laser Type
CO2 (fiber optional)

Consumption
< 1,5 Kw

FUTURA

MAIN SOFTWARE FEATURES

FAST PROGRAMMING
USER FRIENDLY INTERFACE CONTROLLED WITH A 24" TOUCH SCREEN PANEL.

FULL CONTROL
FIDUCIALS CHECK QUALITY VERIFICATION ON ALL CODES MARKED.

DESIGNED FOR
LIGHTING PRODUCTS DYNAMIC PARAMETERS FOR LED BINS.
ONE PROGRAM – MANY COMBINATIONS.

FLEXIBLE PROCESS
DEVELOPMENT
FULL LIBRARY OF 1D AND 2D CODES, INCLUDING INVERTED AND RECTANGULAR DMC.
POSSIBLE TO LOAD DXF FILES.

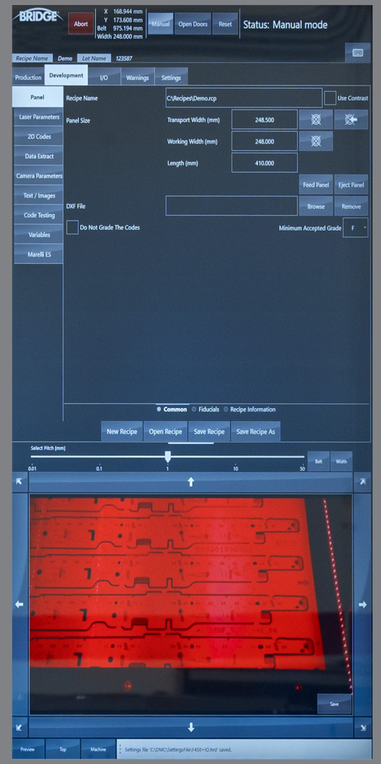
NO INSPECTION WINDOW
INTERNAL CAMERA FOR OPERATOR INSPECTION AND REMOTE SUPPORT.

FAST PRODUCT CHANGE
HANDLES MULTIPLE BATCHES WITH THE POSSIBILITY TO PAUSE AND RESUME THEM.

DYNAMIC CONVEYOR
DIFFERENT TRANSPORT AND WORKING WIDTH FOR ACCURATE PANEL POSITIONING.

EASY VERIFICATION
AUTO TUNING FOR BEST READING PARAMETERS.

PAPERLESS
LINE INSTRUCTIONS FOR THE OPERATOR, WITH NOTES AND PICTURES, ARE SAVED IN EACH PROGRAM.



MES Personalizations and Customizations available

INTEGRATED FLIP PROS&CONS

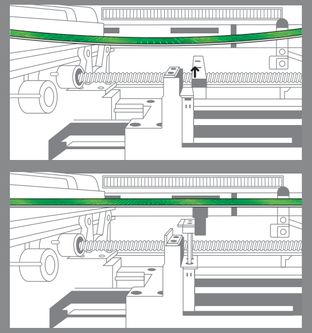
- ✓ Save footprint in the production line (but doesn't allow to flip the panel in masked time)
- ! Requires additional maintenance (Low OEE)
- ! Possible width mismatch between input and output area
- ! Laser focus differences between position 0° and 180°
- ! No chance to compensate bending on PCBs
- ! Forces the user to create a program to mark both side in one full process, losing time and money

THAT'S WHY FUTURA HAS VIRTUAL FLIP!

BENDLESS PCB BOTTOM SUPPORT

- ✓ Board bending compensation for maximum process stability and best 2D code position Accuracy
- ✓ Automatic Positioning
- ✓ Dedicated position saved in each program
- ✓ Avoids laser focus differences on the board (dangerous for cell size variation and unreadable 2D codes)

PROCESS STABILITY IS A MUST!



CONFIGURATIONS

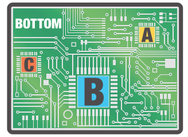
VIRTUAL FLIP - ON THE FLY BOTTOM READER

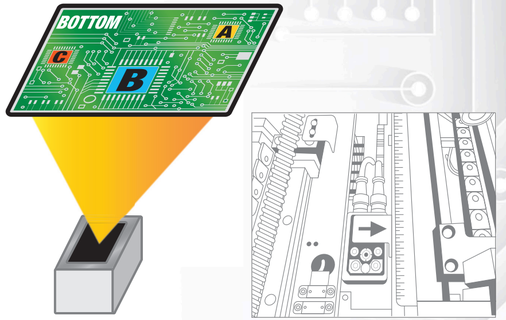
NO ADDED CYCLE TIME - READING IS PERFORMED DURING LOADING PROCESS

SCANNING AREA UP TO 350x350 mm

EASY SETUP
(MANUAL OR AUTOMATIC POSITIONING)

HANDLES BOARDS SOURCED FROM DIFFERENT SMT LINES





CONFIGURATIONS

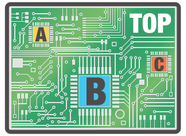
BOTTOM LASER

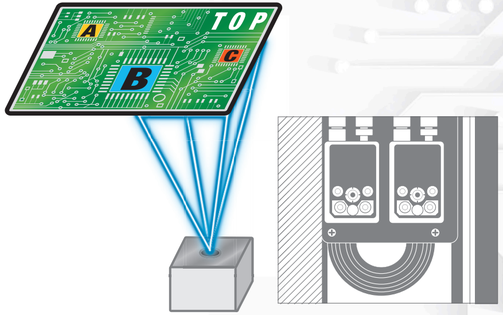
SIMULTANEUOS MARKING
WITH TOP LASER

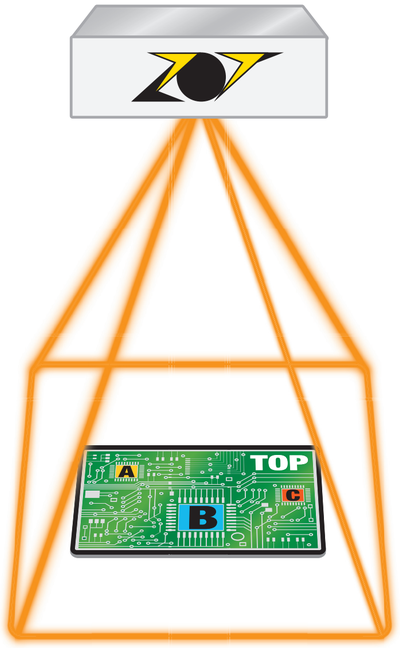
100x100 mm MARKING AREA
(OPTIONAL 350X350 mm)

10 W CO2 LASER

TWO READERS FOR
QUALITY GRADE INSPECTION







Ever faster, ever more performing.

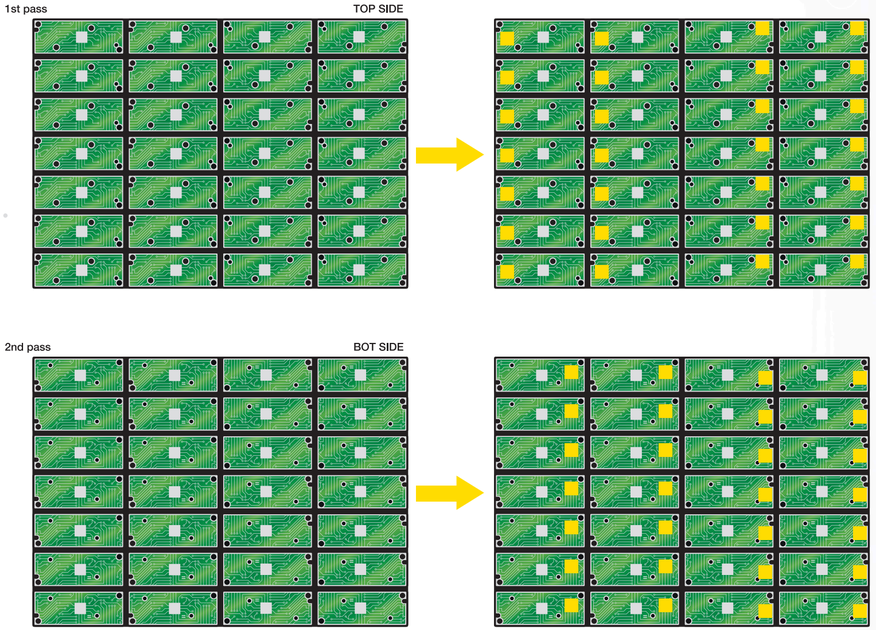
ZERO OPTICAL TIME

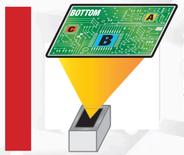
- Simultaneuos Multiple 2D Code Quality Check
- 350x350 mm Capturing area
- Zero Optical Time: 0,4 s for 0,8 s higer 2D count
- Typical Panel with 20 2D codes: 93% saving time - 0,8 s instead of 12 s

100% QUALITY CHECK AT ZERO COST!

PROCESS COMPARISON BETWEEN FUTURA AND PAST CONCEPT WITH INTEGRATED FLIP UNIT

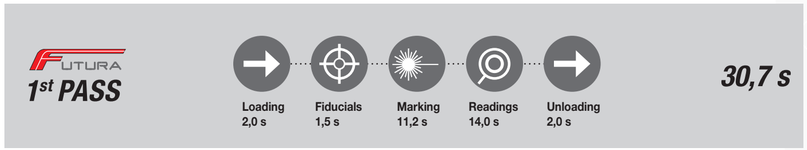
PANEL WITH 28 PCBS UNITS 28 TOP & 28 BOT

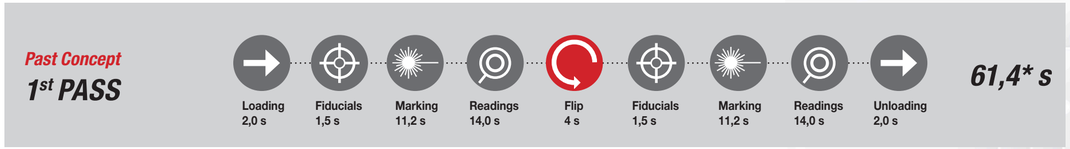


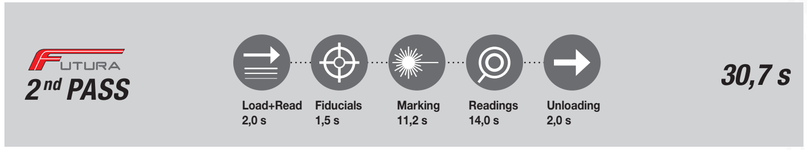


FOR F350
With Bottom Reader

F350
STANDARD

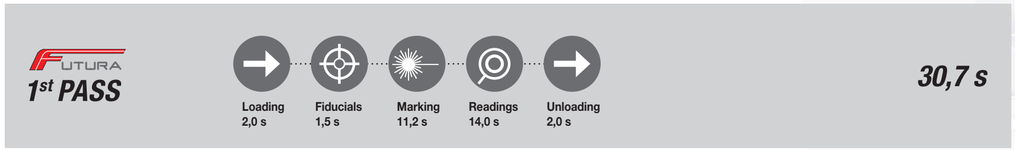


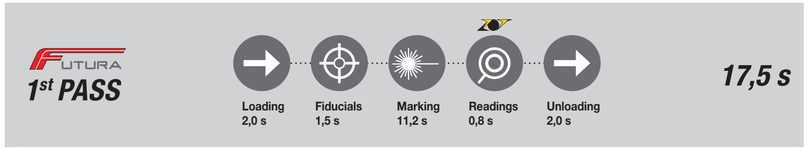




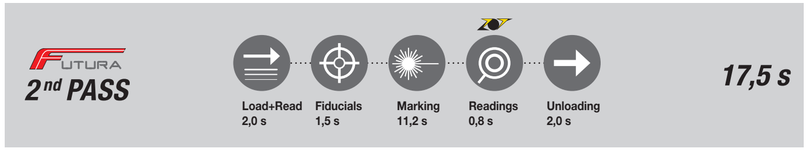
*CONVENTIONAL MACHINE WITH AXES APX CYCLE TIME: 41 s

F350
WITH ZOT (ZERO OPTCAL TIME)





SAVING
WITH ZOT: 44%



SAVING
WITH ZOT: 44%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SYNERGY BETWEEN EXCELLENCE

Bridge Srl / via Breda, 30/7 - 10010 Burolo (TO) Italy
www.bridge-automation.com