



REFLOW SCOPE · WIDE VIEW
core9055a

If only we could see what is happening in the reflow!
Yes, you can. CORES has just made another
big step forward for your **dreams** to come true

Simulate the phenomena inside reflow furnace right out to your desktop!

Not only observations but real surface-mounting are possible on various electronic devices as big as PCBs in A4 size

With the enforcement of the RoHS 2006, there has been an overwhelming world-wide trend in the use of lead-free solders for the surface mounting process in the production of electric and electronic parts and devices.

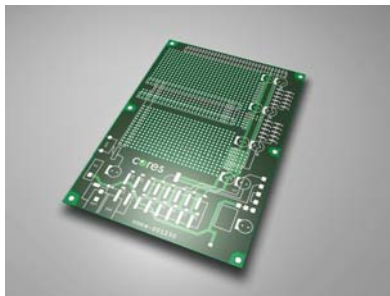
Lead-free solders, requiring much higher temperatures when applied in reflow ovens, however, created various serious problems such as poor soldering wettability, coplanarity or warpage of connectors, PCBs and other devices on the production lines.

CORES, to cope with these problems, has taken advantage of its own relevant technical and commercial expertise in the area of temperature control related products, and has developed core9055a for the realization of easy inside reflow observations from wide angles and of uniform heating and cooling efficiencies on PCB substrates.

core9055 thus enables you to vividly observe and record in real time solder wettability as well as the shape change of electric and electronic parts and devices as the applied solder is being melted.

Observations and real surface mounting on targets in size up to A4

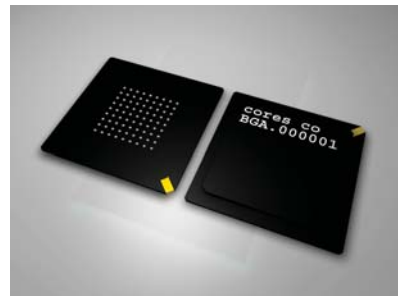
core9055a has a big show case with transparent walls for you to do surface mounting in there on PCBs, CSPs, BGAs and so on in size up to A4 and watch them from above, below and front through the glass windows.



PCBs



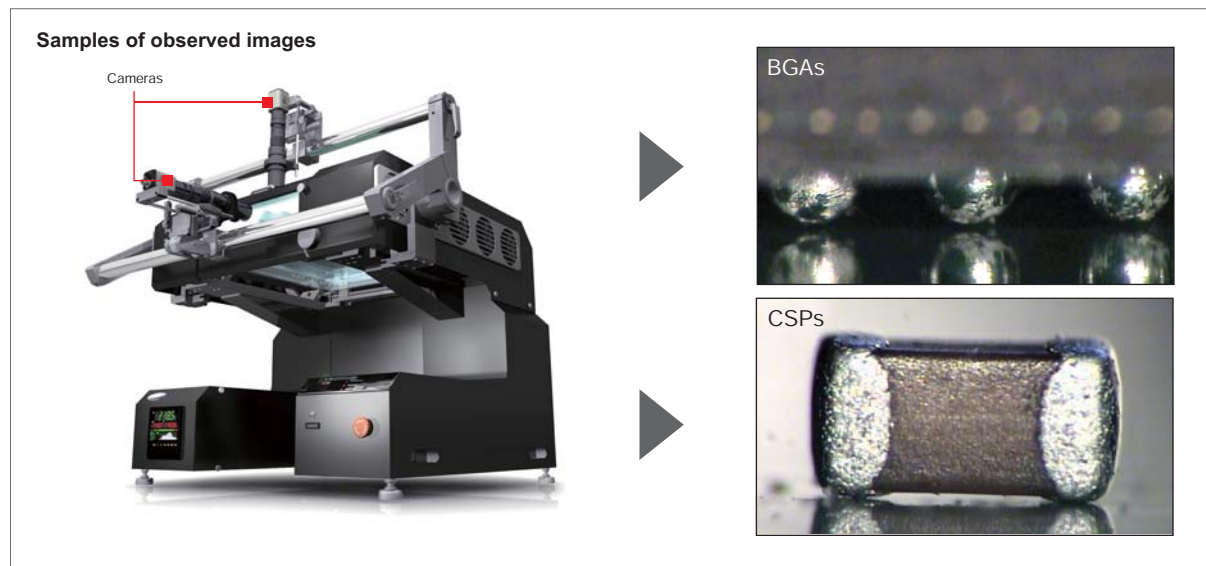
CSPs



BGAs

Uniform temperature environment produced by convection

core9055a's unique convectional heating method makes it possible not only to allow the aforesaid easy observations from below but also to produce a similar uniform temperature environment to those of real reflows.

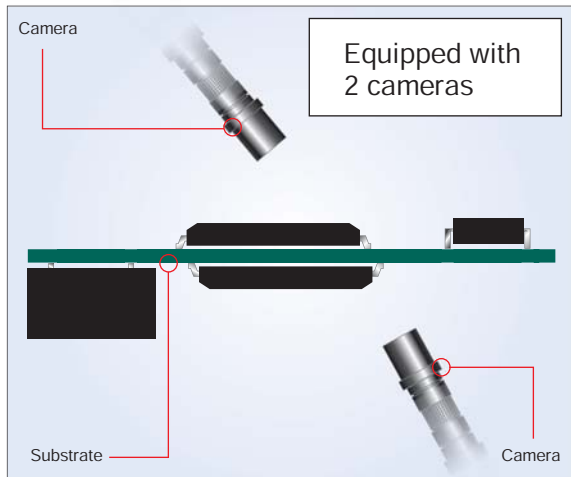


Simultaneous observations from 2 directions using 2 cameras

You can watch the real shape change or wettability of the target piece from 2 directions using 2 cameras simultaneously, which helps you solve various poor soldering problems easily.

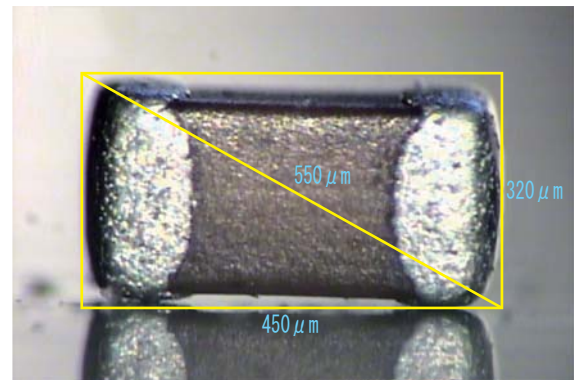
Best suited to substrates to be surface-mounted on both sides

By using 2 cameras, you can capture the views of a double-sidedly mounted target piece from all angles



Size measurement of target piece

You can measure the size by dragging and dropping



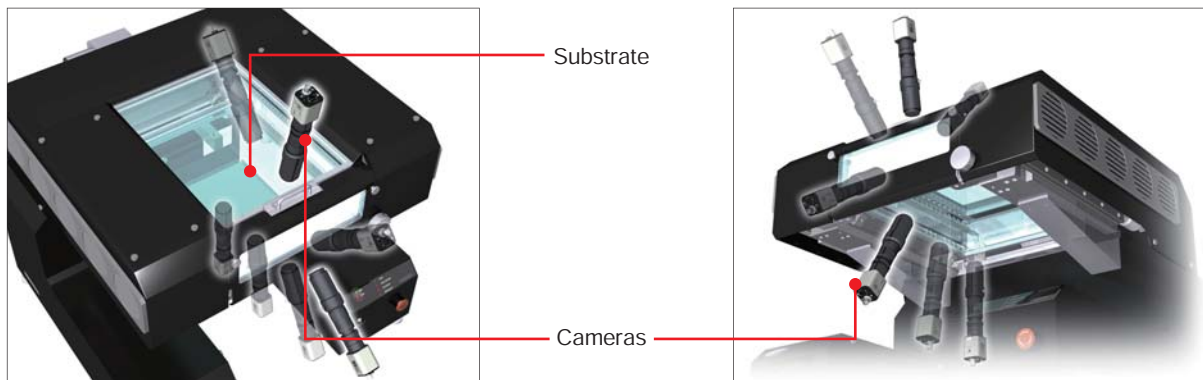
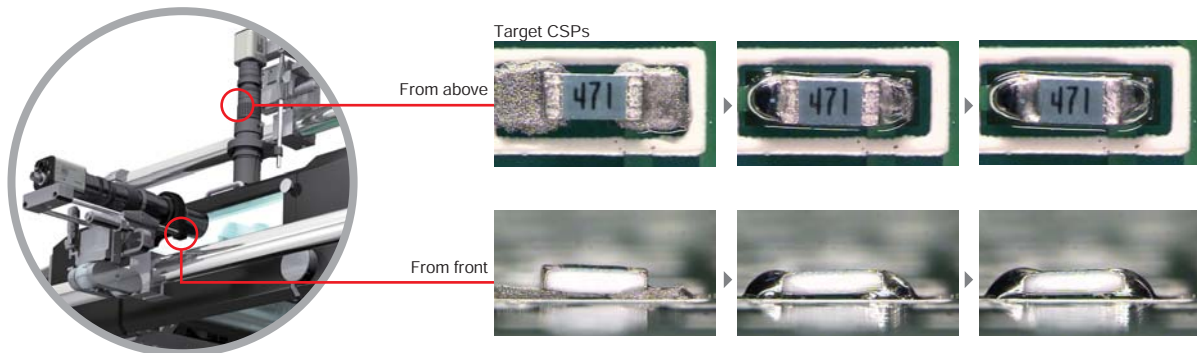
Dragging and dropping



Observations are possible from all directions

You can observe the target work from any direction and angle as you like in much shorter time; with the one camera set from above and the other from below, for example.

Samples of observed images of a CSP from 2 directions

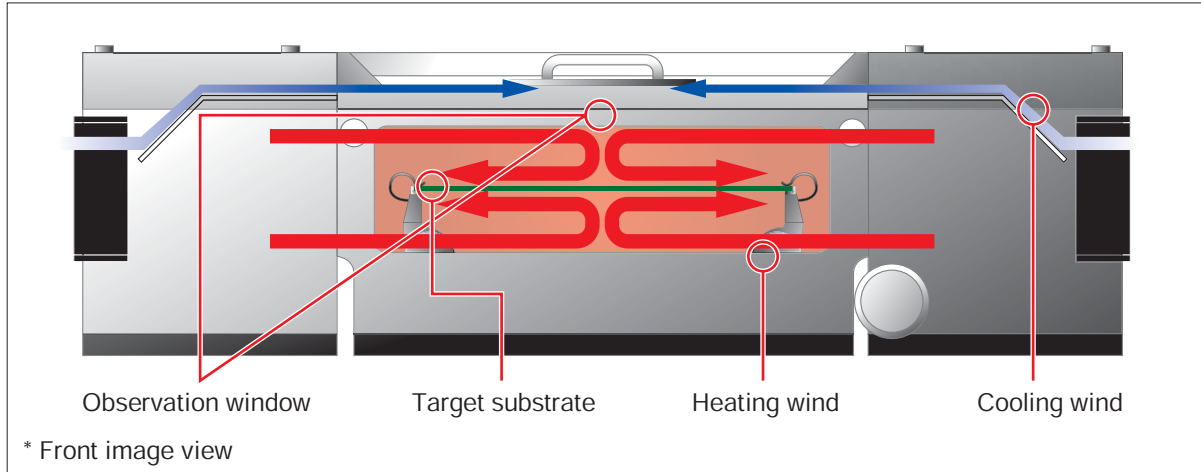


Similar environmental conditions to those of real reflows for lead-free solders

core9055a, using the most electronic device-friendly convectional heating method, has allowed the realization of higher thermal conductivity efficiency.

Ideal thermal distribution environment can be uniformly produced

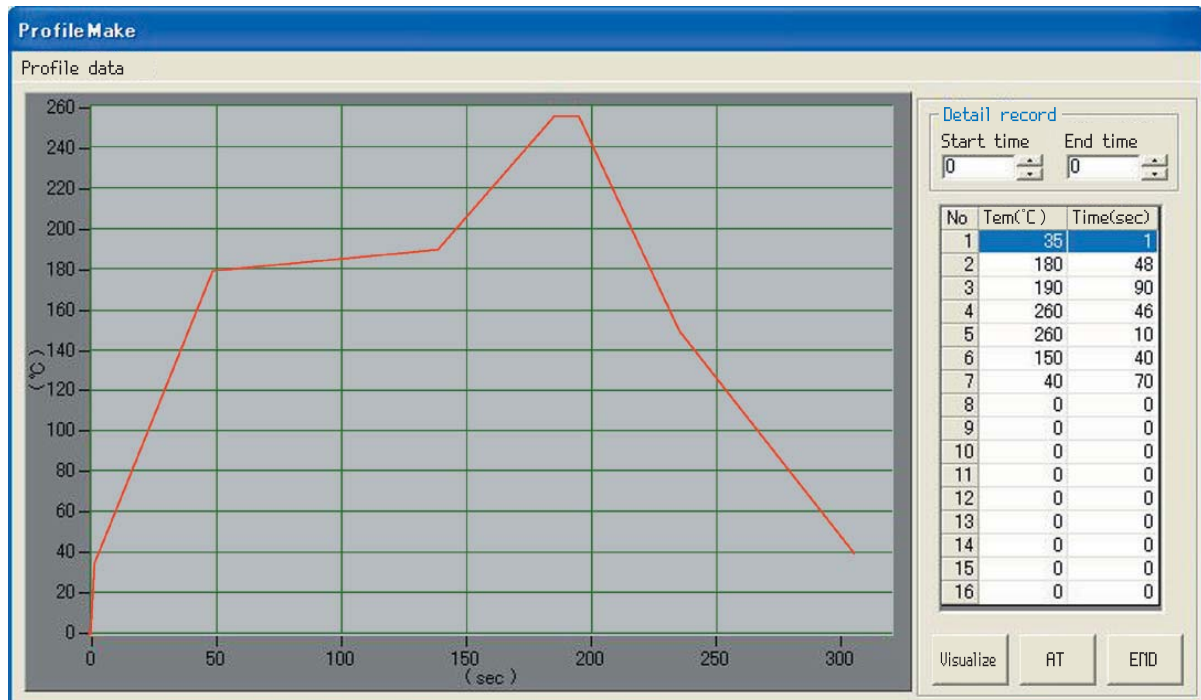
Flows of heating wind by convection and cooling wind by fans



Temperature profiles can be easily created

You can easily create temperature profiles by setting relevant temperatures and times(seconds)
 A temperature profile has a maximum of 16 points to designate each temperature and time.

Screen display to set a temperature profile



Produce reference data with much ease and effect

A sense of comfort and satisfaction in producing data using COR, CORES own filing format.

Produce data on pictures taken in layout as you like

The data and Information stored in still pictures or animations can be selected “ON” when it is necessary and “OFF” when unnecessary.

For example, when you need animations of “Sample A” taken under heated conditions for the purpose of making presentation or thorough research on them, such animations will have to provide relevant information such as “Controlled temperatures” “Elapsed times” “Temperature logger values” and “Scales” for thorough research purpose, while animations with no such information will be good enough just for presentation purpose.

Controlled temp
 制御: 129.5°C
 1CH: 13.8°C
 2CH: 13.6°C
 3CH: 16.0°C
 4CH: -9.7°C
 5CH: 18.2°C
 6CH: 18.2°C
 7CH: 17.9°C
 8CH: 17.8°C

Elapsed time
 経過: []

Logger 1-8 CHs

Profile graph

Scale
 500 μm

Oxygen density
 100ppm

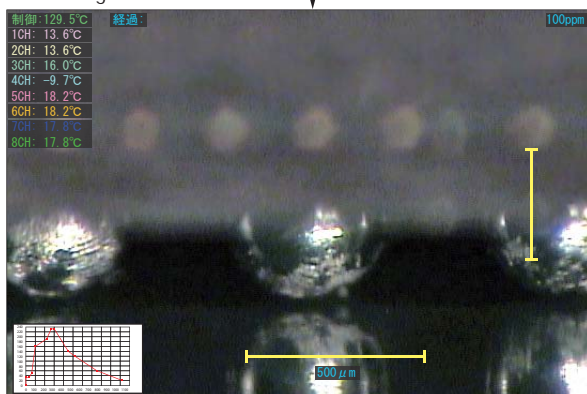
Check boxes for selected information
 Check boxes for indication of “Controlled temp”, “Elapsed time”, Logger 1 – 8 CHs, “Scale”, “Oxygen density” and “Profile graph”

Switch displays

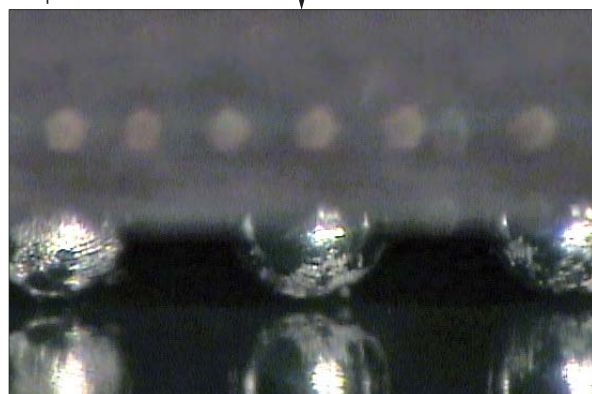
<input checked="" type="checkbox"/> Control tem	<input checked="" type="checkbox"/> Logger CH 1	<input checked="" type="checkbox"/> Logger CH 5
<input checked="" type="checkbox"/> Time laspe	<input checked="" type="checkbox"/> Logger CH 2	<input checked="" type="checkbox"/> Logger CH 6
<input type="checkbox"/> Scale	<input checked="" type="checkbox"/> Logger CH 3	<input checked="" type="checkbox"/> Logger CH 7
<input type="checkbox"/> Profile graph	<input checked="" type="checkbox"/> Logger CH 4	<input checked="" type="checkbox"/> Logger CH 8
		<input type="checkbox"/> 2pts cursor

Produce data on pictures taken in layout as you like

For thorough research



For presentation

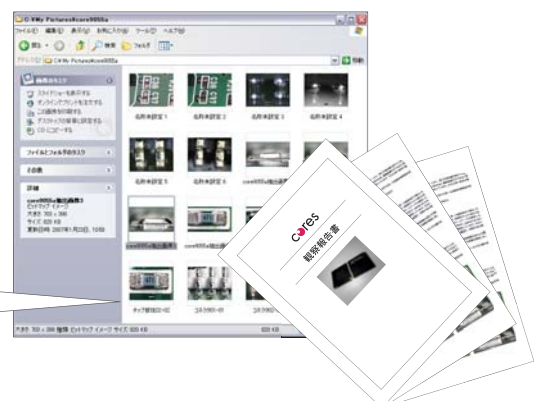


Data can be stored in animations and still pictures

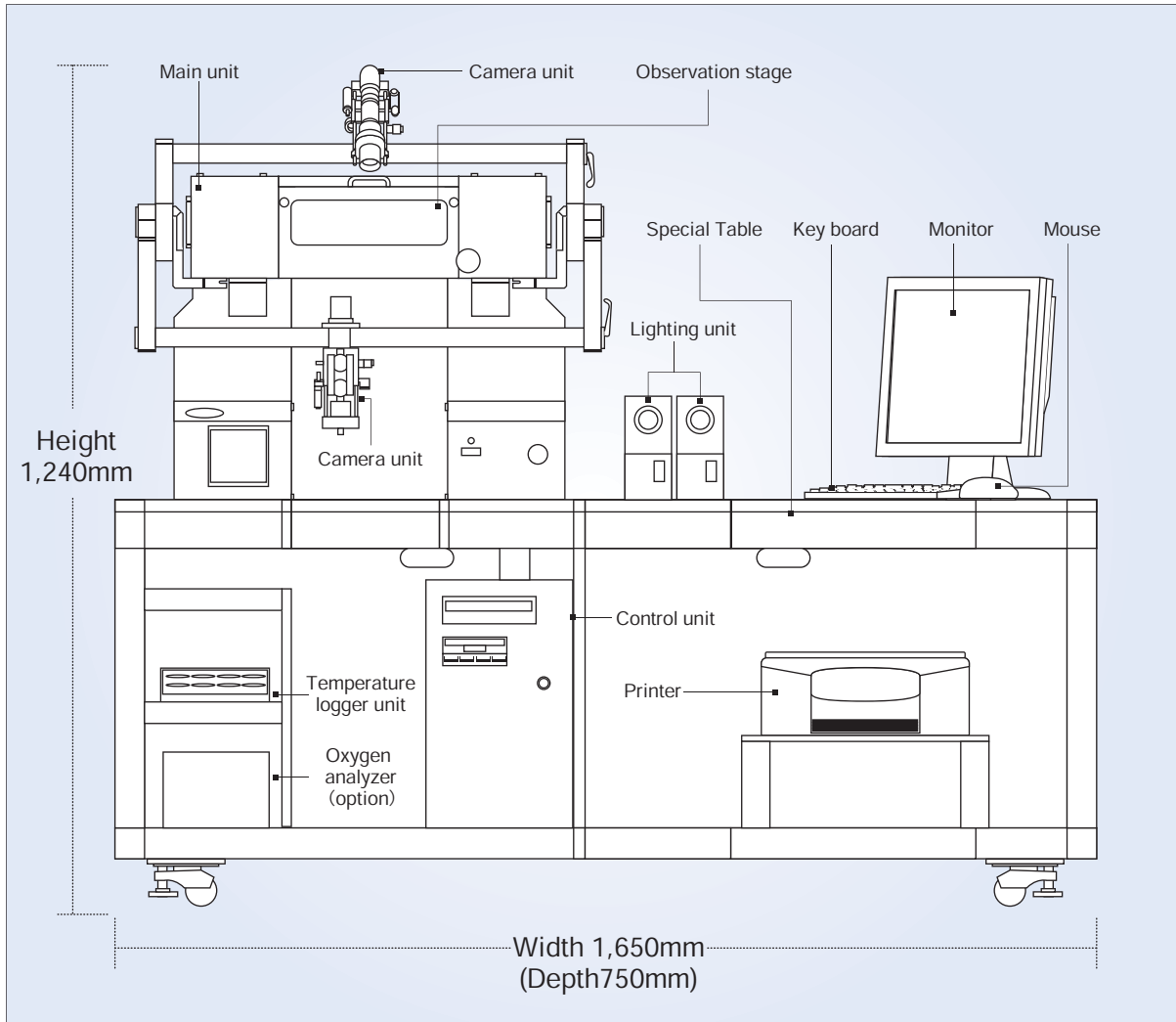
Observation data can be stored in animations (such as AVI, COR^{※1} and MPG) and still pictures (BMP and JPG) with temperature and time information attached and will be easily available for making reports. Solder wettability and target shape change to temperature can be captured in real time by way of recording the data in such animations and still pictures.

Animations are easily available for making presentations

※1.COR is a CORES' own filing format



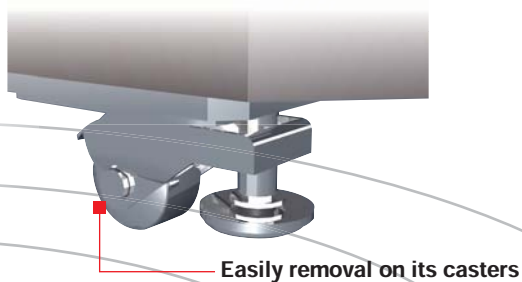
Components and dimensions of core9055a



Special installation table

Special installation table

The main and camera units are installed onto a compact table of strong and integral structure, so that you can continue with comfortable and reliable observation work at it without being annoyed by any vibrations.



Specifications

I General

Power	200VAC \pm 5% (50 / 60Hz) single phase 100VAC \pm 10% (50 / 60Hz)
Power consumption	Main unit : 13kVA (200VAC) Control unit : 0.5kVA (100VAC)
Air pressure	0.5MPa ~ 0.9MPa
Air consumption	850L/min
Weight	Main unit 90kg Control unit 19kg Special Table 100kg
Dimensions	Main unit W 760mm \times D 380mm \times H 540mm Control unit W 235mm \times D 400mm \times H 375mm Special Table W 1650mm \times D 750mm \times H 700mm
Ambient temperature	25°C \pm 5°C

I Heating

Heater	200V 3200W \times 4
Heater lifetime	5000h
Heating method	Convection by hot air
Heating temperature range	Room temperature to 300° C
Heating area	W 250mm \times D 340mm \times H 80mm
Temperature control	controlled by temperature controller and thyristor unit, monitoring the temperature with thermocouples.

I Camera

Photograph elements	1/2" color CMOS
Total pixel number	2 million in colour
Converted amplification	Standard magnification : (\times 7 ~ 56) (Standard) High magnification : (\times 28 ~ 224) (Option) (Resolution 1,280 x 1,024 pixels on 19" monitor)
Photograph area	Standard magnification : W 26.88mm \times D 20.16mm ~ 3.36mm \times H 2.52mm High magnification : W 6.72mm \times D 5.4mm ~ 0.84mm \times H 0.63mm
WD	Standard magnification : 82mm High magnification : 83mm

I Lighting

Spotlight	High power LED
Light lifetime	Approx. 40000h
Average lux	45000lux(5cm distant) 15000lux(10cm distant)
Power	100VAC(Use the attached adapter)
Power consumption	4W (Light source in max brightness)

I Other major functions

Temperature profile	Up to 16 temperatures can be designated in the profile,
Data storing	Temp., time and animations(AVI, COR*MPG) can be recorded as per 30 frame/sec and still pictures(BMP, JPG) as snapshots,
Logger unit	Temperatures of max 8 points(via 8 channels) of the target piece can be measured with thermocouples and in accordance with the temperature profile, The measured data can be saved in CSV,

* COR is a Cores' own file form

※This catalog information is as of 19 June 2013.
※This catalog information is subject to change without prior notice.



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