

# Test Result Report

No. NB1803007

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To: Raycop Japan Inc.

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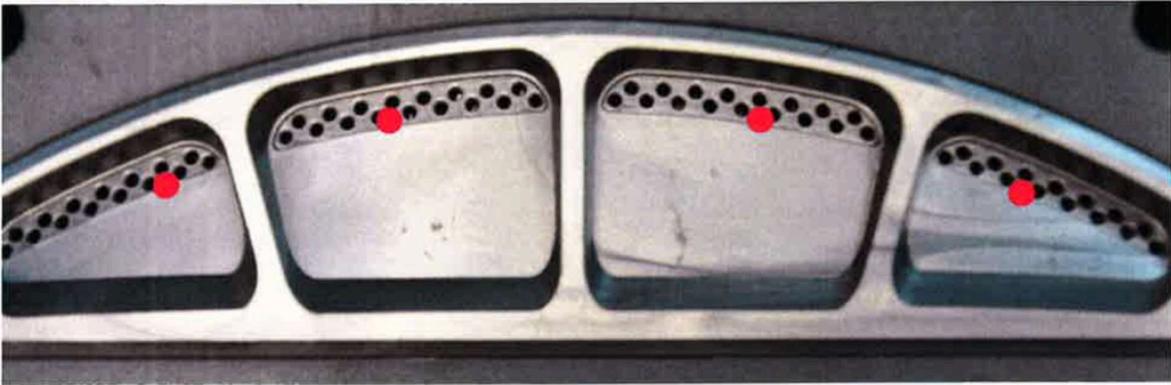
Test category	Bedding cleaner	Received by	Brought in (on March 14, 2018)
Test title	Maximum warm air temperatures and the time required to reach those temperatures		
Sample name (such as product name)	RAYCOP RTP-100		
Devices used	5 K thermocouples (4 thermocouples to take RTP-100 measurements, 1 thermocouple to take room temperature measurements) Mobile recorder MV100 (Yokogawa Electric Corporation)		

The test results for these samples are shown below.

Item for measurement	Results	
Maximum temperature	60°C or higher	
Time required*	80 seconds	
(BLANK)		
Time required: Time required to exceed 60°C		
Points of measurement:		
Warm air outlet: 4 points (see appendix) Room temperature: 1 point		
Number of measurements taken: 3 times Time interval between measurements: 20 seconds		
Average room temperature when measurements were taken:		
Before turning on: 20.5°C From beginning to end of measurements: 20.5°C		
Warm air outlet temperature before device is turned on: 21.2°C		
Each of the measurements was taken on different days. The recorded measurements were taken at the first use of the day.		

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## Appendix 1



**Photo 1.** Warm air temperature measurement points on RTP-100 (red dots)

- One thermocouple was secured to each of the measurement points to take simultaneous measurements in 4 locations. One thermocouple was also placed in a location 1 meter away from RTP-100 to take the room temperature.
- The end of the thermocouple that was secured to RTP-100 was placed 2 to 5 millimeters away from the surface of the hot air outlet. Therefore, these test results are not of the temperatures of the bedding surface exposed to warm air but are equivalent to the temperatures near the outlet.
- Bedding, etc. were not used for taking measurements. The temperatures were measured by placing the RTP-100 with an attached thermocouple directly on the test bench.
- The temperatures were taken in 20 second intervals. The average of four locations were used as RTP-100's warm air temperature.

## Appendix 2

- 1) The maximum warm air temperature blowing out of RTP-100:

On the first page, 60°C is the standard as the maximum warm air temperature blowing out of RTP-100. **Table 1** shows the maximum temperature and required time for the actual measurements.

**Table 1.** The maximum warm air temperature blowing out of RTP-100 and the time required to reach that temperature

		1 <sup>st</sup> measurement	2 <sup>nd</sup> measurement	3 <sup>rd</sup> measurement	Average
Maximum temperature	Measurement point (1)	72.1°C	72.4°C	72.4°C	-
	Measurement point (2)	71.9°C	71.8°C	72.1°C	-
	Measurement point (3)	77.5°C	78.5°C	77.7°C	-
	Measurement point (4)	76.0°C	76.3°C	77.3°C	-
	Average	74.4°C	74.8°C	74.9°C	74.7°C
Time required		300 seconds	260 seconds	360 seconds	307 seconds

Note: Points (1), (2), (3) and (4) start from left to right in **Photo 1**.

## Appendix 3

- 2) Maximum temperature when there is residual heat in RTP-100 and the time required to reach that temperature:

After studying the maximum temperatures of RTP-100 and the time required to reach those temperatures, it was found that the maximum temperatures were roughly the same but the time required to reach those temperatures varied.

After a series of investigations, we found that the time required to reach the maximum temperatures will vary greatly depending on whether there is residual heat in the RTP-100. Thus, we only used the measurements taken during the first use of the device each day. **Table 2** shows the test results that were not used as our data.

**Table 2.** Maximum temperatures of warm air blown out of RTP-100 and the time required to reach that temperature

With residual heat in RTP-100:

	N1	N2	N3	N4	N5	Average
Maximum temperature	69.1°C	72.0°C	72.5°C	70.1°C	74.5°C	71.6°C
Time required	100 seconds	100 seconds	100 seconds	140 seconds	180 seconds	124 seconds
Time required to exceed 60°C	40 seconds	20 seconds	40 seconds	40 seconds	60 seconds	40 seconds
Room temperature (before device is powered)	25.9°C	24.6°C	27.5°C	24.3°C	19.6°C	24.4°C
Temperature of measurement point (before device is powered)	28.5°C	31.3°C	31.5°C	26.2°C	23.8°C	28.3°C
Difference between room temperature and measurement point	2.6°C	6.7°C	4.0°C	1.9°C	4.2°C	3.9°C

Note: The difference between the room temperature and the measurement points when the device was first powered on (shown on Page 1) was 0.7°C.

End