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Kerone Research & Development Centre (KRDC),
B/47, Addl. MIDC. Anand Nagar, Ambernath (East), Thane- 421 506, India
Tel- +91-251-2620542/43/44/45/46, Email-info@kerone.com, www.kerone.com



**Batch Vacuum Treatment for
Drying of Capsules**



ISO 9001-2008 | ISO 9001-2015 | EMS 14001 | OHSAS 18001
In Association with SVCH-Technologii, Moscow (Russia)



EUROPEAN ASSOCIATION OF MANUFACTURERS OF PHARMACEUTICAL EQUIPMENT



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Customer :	SciTech Centre
Process :	Batch Vacuum Treatment for Drying of Capsules

TEST REPORT No: 47/KRDC/LAB/17 Mum 22/01/2021

Date Sample reception : 26/10/2020
ID : 47/LAB/180

SAMPLE DESCRIPTION:

Sampling : As Requested
Sample Condition : Acceptable
Quantity : 2 nos. of bags
Samples opening date : 26/11/2020
Product : Green Capsules
Start Date test : 22/01/2021
End Date test : 22/01/2021

LABORATORY EXPERIMENTAL SET UP:



Format: F/R&D/01



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LAB BATCH CONVECTION HEATING SYSTEM SPECIFICATIONS:

desiccator (diameter*height)	300*410
Vacuum Pump	3 mbar

EQUIPMENTS USED:

Name of Equipment	Picture of Equipment	Specifications
Compact Thermal Imaging Camera		Model: FLIR E-30 Resolution: 160x 120 IR Thermal sensitivity of 0.10°C
Moisture Analyzer		Make: Axis Balance Description: Moisture range: 1%(sample 0.02/0.05g), 0.1% (Sample 0.5/5g), 0.01%(Sample>5g)
Thermo Hygrometer		Model No: HTC-2 Temperature accuracy: $\pm^{\circ}\text{C}$ (1.8°F) Temperature resolution: 0.1°C (0.2°F) Humidity range: 10%~99% RH Humidity accuracy: $\pm 5\%$ RH Humidity resolution: 1% RH

Format: F/R&D/01



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SAMPLE PREPARATION AND METHOD/PROCEDURE:

The experiment has been performed on Green Capsules to analyze the moisture content of the product. For this experimental run, given capsules sample has been placed in ceramic tray inside desiccator which is further attached with vacuum pump. Observations are made on LOD basis. Also, initial and final moisture content has been taken.

ANALYTICAL RESULTS:

Vacuum Pressure: 1 Torr.

Sr. No.	Time (minutes)	Initial Weight (grams)	Final Weight noted (grams)	Total Weight Loss
1.	15	24.970	24.793	0.177
2.	45	25.002	24.749	0.253
3.	60	24.972	24.715	0.257

BEFORE & AFTER PICTURES OF TREATED SPECIMEN SAMPLE:



BEFORE



AFTER

Format: F/R&D/01



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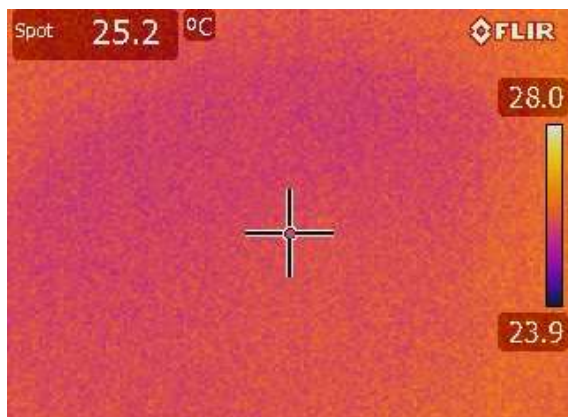


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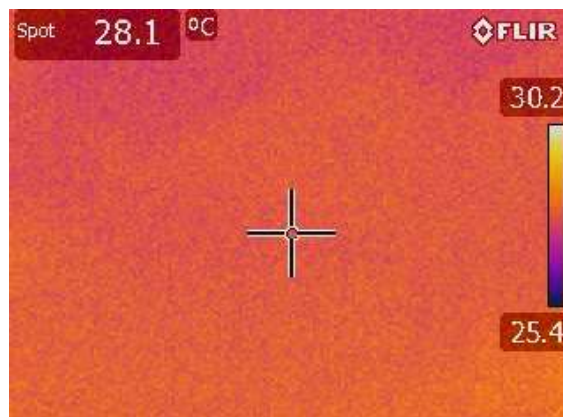
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THERMAL IMAGE BEFORE AND AFTER HEAT TREATMENT:



BEFORE



AFTER

OBSERVATIONS:

The drying behavior of green capsules has been investigated under the vacuum setup. The drying rate is found to be increasing with respect to increase in time. It has been found that the moisture content on the dry basis (%) decreases with respect to increase in drying time. As per physical investigation, it has been observed that rise in processing temperature (suggested 40°C) is required for obtaining desired moisture content.

Miss Komal Bhoite
Tested By