



BIOMICROGEL[®]

“SPC BIOMICROGEL” COMPANY LTD. RUSSIA, 620072, SVERDLOVSK REGION, EKATERINBURG, KONSTRUKTOROV str., 5, office 431
Taxpayer Identification Number: 6685023448 | Tax Registration Reason Code: 667001001
e-mail: info@biomicrogel.com | site: biomicrogel.com | tel.: +7 (343) 251-99-90

PRODUCT INFORMATION

BMG PDS-1000.1C

Preparation and dosing station

CONTENT

1. General information	3
2. Technical specifications	3
3. Principle of operation	5
4. Annex	6

1. General information

This document contains technical information on the station for preparation and dosing of oil extraction additive **BMG-C4**. The nominal capacity of the station is 1000 l/h. These units are designed for use in palm oil plants with a processing capacity of 15 to 60 FFB t/h (Fresh Fruit Bunches) with a working solution concentration of 3%.

This technical description is intended for use as part of feasibility studies, tender, design and engineering documentation.

SPC BioMicroGel LLC reserves the right to make changes and additions to this equipment, its design and performance that do not affect the technical and operational characteristics of the product, or improve them.

2. Technical specifications

MODEL	BMG PDS-1000.1C
Dry reagent throughput	30 kg/h
Working solution throughput	1000 l/h
Rated power of the station	1.65 kW
Motor power of the dosing pump	0.37–1.1 kW
pH value for 3% water solution	1.3–1.5
Length of telescopic handle, m	1.2–2.0
Capacity of the dosing pump	0.28 m ³ /h to 0.92 m ³ /h
Metering pump pressure	0.3–0.4 MPa





Metering pump pressure	0.3–0.4 MPa
Number of stirring devices	2 pcs.
Stirrer rotation speed	100 rpm
Stirrer type	Paddle stirrer
Number of tanks used for preparation and dosing the working solution of BMG-C4	2 pcs.
Volume of tank used for preparation of working solution of BMG-C4	500 l
Number of tanks used for storage and dosing the working solution of BMG-C4	1 pc.
Volume of container used for storing and dispensing the working solution of BMG-C4	500 l
Dry powder batcher for BMG-C4	1 pc.
Rated power of dry powder batcher for BMG-C4	0.25 kW
Volume of hopper for storing BMG-C4 dry powder	50 l
Overall dimensions of the station	3800mm (L) x 2800 mm (W) x 2500mm (H)

3. Principle of operation

In order to prepare the working solution of oil extraction additive **BioMicrogel® BMG-C4** with a concentration of 3%, using Preparation and Dosing Station PDS-1000.1C, the operator needs to:

- Load the dry powder of **Biomicrogels® BMG-C4** oil extraction additive into the hopper.
- Select the operating mode using the toggle switch on the control box of BMG PDS-1000.1C to Automatic.
- With an empty container for storing and dispensing the **Biomicrogels® BMG-C4** oil extraction agent and the upper liquid level sensor being open, the water supply solenoid valve will open and the metering auger will turn on feeding dry powder into the first dissolution chamber.
- 5 minutes later after the start of the water and reagent supply, the stirring device is turned on in the first chamber at a speed of 100 rpm.
- When the first chamber is filled up and pre-solution in it is prepared, the liquid enters the second chamber where, using a stirring device set to 100 rpm, the final dissolution of the **Biomicrogel® BMG-C4** oil extraction agent is performed.
- From the second dissolution chamber, the working solution is pumped to the third storage and dosing chamber.
- When the third chamber is filled, the lower level sensor closes and the dry run protection of the metering pump is cleared.
- The metering pump operates according to the dosing volume preset by the operator after the dry-running protection signal from the third chamber of station is cleared and based on the on/off signal from the main transfer pump.
- After the third chamber is filled and the upper level sensor is closed, the dry powder metering screw is turned off and the water supply solenoid valve is closed.

4. ANNEX

Annex 1 – Process flow diagram for BMG PDS-1000.1C

