

# Datasheet

## Medical Device: Pulsed Magnetic Therapy Device

### Model: BIOMAG® Lumina 3D-e

BIOMAG® Lumina 3D-e EASY without battery  
BIOMAG® Lumina 3D-e EASY with battery  
BIOMAG® Lumina 3D-e CLINIC without battery  
BIOMAG® Lumina 3D-e CLINIC with battery

| Description                                                                                                                                               | Values                                                                                                  |                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Software version                                                                                                                                          | Display on the screen<br><a href="http://www.biomag-medical.com/info/">www.biomag-medical.com/info/</a> |                                                                          |
| Power supply voltage                                                                                                                                      | ~ 100 to 240 V, 50/60 Hz                                                                                |                                                                          |
| Device input power                                                                                                                                        | 60 VA                                                                                                   |                                                                          |
| Voltage of integrated power source                                                                                                                        | 24 V DC                                                                                                 |                                                                          |
| Device insulation class                                                                                                                                   | II.                                                                                                     |                                                                          |
| Applied part type                                                                                                                                         | BF type                                                                                                 |                                                                          |
| Power cord                                                                                                                                                | H05VVH2-F 2 x 0.75 mm / H03VVH2-F 2 x 0.75 mm                                                           |                                                                          |
| Environment                                                                                                                                               | Normal                                                                                                  |                                                                          |
| Protection grade                                                                                                                                          | IP 30 *                                                                                                 |                                                                          |
| MIMI – maxim intensity of magnetic induction                                                                                                              | Max. 35 mT                                                                                              |                                                                          |
| Output regulation (intensity)                                                                                                                             | EASY<br>Without regulation                                                                              | CLINIC<br>12 levels<br>1, 5, 10, 20, 30, 40, 50, 60,<br>70, 80, 90, 100% |
| Number of outputs for applicators                                                                                                                         | 4                                                                                                       |                                                                          |
| Number of EASY programs                                                                                                                                   | 6 programs                                                                                              |                                                                          |
| Basic number of programs in MY PROGRAMS for the EASY mode<br>(possibility of copying the program without changing the name /<br>with changing the name)   | ** 1 most frequently used + 8 possibilities                                                             |                                                                          |
| Number of CLINIC programs                                                                                                                                 | 6 programs                                                                                              |                                                                          |
| Basic number of programs in MY PROGRAMS for the CLINIC mode<br>(possibility of copying the program without changing the name /<br>with changing the name) | *** 1 most frequently used + 200 possibilities                                                          |                                                                          |
| Frequencies of programs                                                                                                                                   | EASY 4–81 Hz                                                                                            | CLINIC 4–81 Hz                                                           |
| Pulse shape                                                                                                                                               | Rectangle (modified according to frequency)                                                             |                                                                          |
| Pulse leading edge width<br>(dependent on the selected program and applicator induction)                                                                  | 0.4-2.5 ms                                                                                              |                                                                          |
| Pulse width                                                                                                                                               | 1.1-11.1 ms ****                                                                                        |                                                                          |
| Pulse descending edge depending on the applicator induction                                                                                               | 0.5-3.5 ms                                                                                              |                                                                          |
| Number of time ranges                                                                                                                                     | 9                                                                                                       |                                                                          |
| Application times                                                                                                                                         | 5, 10, 15, 20, 25, 30, 45, 60, 90 min                                                                   |                                                                          |
| End of application                                                                                                                                        | Acoustic indication + Display                                                                           |                                                                          |
| Warning messages                                                                                                                                          | Acoustic indication + Display                                                                           |                                                                          |
| EMC – electromagnetic compatibility                                                                                                                       | CSN EN 60601-1-2 ed. 3:2016                                                                             |                                                                          |
| Ambient temperature around the device                                                                                                                     | +5°C to +35°C                                                                                           |                                                                          |
| Device dimensions                                                                                                                                         | 240 x 162 x 75 mm                                                                                       |                                                                          |
| Display                                                                                                                                                   | 3.5" TFT                                                                                                |                                                                          |
| Device weight                                                                                                                                             | 0.845 kg                                                                                                |                                                                          |
| Type of accumulator (if included in the system)                                                                                                           | Lithium battery LIP745690P/2S                                                                           |                                                                          |
| Accumulator weight                                                                                                                                        | 165 g                                                                                                   |                                                                          |
| Operation time when powered from accumulator (with 4 outputs occupied)                                                                                    | approx. 160 min                                                                                         |                                                                          |
| Accumulator recharging time                                                                                                                               | 7 hours                                                                                                 |                                                                          |

| Programs and their parameters |                                                                                             |                           |               |                   |                                    |                                            |             |                                                                                                      |
|-------------------------------|---------------------------------------------------------------------------------------------|---------------------------|---------------|-------------------|------------------------------------|--------------------------------------------|-------------|------------------------------------------------------------------------------------------------------|
| Order                         | Name                                                                                        | Frequency / sequence time |               |                   | Wobbling                           | Intensity                                  | Pulse shape | Application time  |
| Program No. 1                 | PAIN-RELIEVING EFFECT                                                                       | 5–12 Hz<br>2 min 30 s     | 15 Hz<br>15 s | 25 Hz<br>15 s     | Gradually increasing               | EASY: without regulation<br>CLINIC: 1–100% | Rectangle   | EASY: 20 min<br>CLINIC: 20 min (5–90 min)                                                            |
|                               | promoting pain relief                                                                       |                           |               |                   |                                    |                                            |             |                                                                                                      |
| Program No. 2                 | HEALING EFFECT                                                                              | 50–81 Hz<br>2 min 30 s    |               | 12 Hz<br>30 s     | gradually increasing / after pulse | EASY: without regulation<br>CLINIC: 1–100% | Rectangle   | EASY: 20 min<br>CLINIC: 20 min (5–90 min)                                                            |
|                               | promoting healing accompanied by regeneration, anti-inflammatory and anti-rheumatic effects |                           |               |                   |                                    |                                            |             |                                                                                                      |
| Program No. 3                 | ANTI-SWELLING EFFECT                                                                        | 12–15 Hz<br>2 min 30 s    |               | 50–75 Hz<br>30 s  | Gradually increasing               | EASY: without regulation<br>CLINIC: 1–100% | Rectangle   | EASY: 20 min<br>CLINIC: 20 min (5–90 min)                                                            |
|                               | promoting the reduction of swellings                                                        |                           |               |                   |                                    |                                            |             |                                                                                                      |
| Program No. 4                 | MYORELAXING EFFECT                                                                          | 10–12 Hz<br>3 min         |               |                   | Gradually increasing               | EASY: without regulation<br>CLINIC: 1–100% | Rectangle   | EASY: 20 min<br>CLINIC: 20 min (5–90 min)                                                            |
|                               | promoting the reduction of spasms and swellings                                             |                           |               |                   |                                    |                                            |             |                                                                                                      |
| Program No. 5                 | VASODILATING EFFECT                                                                         | 12 Hz<br>1 min            |               | 50–80 Hz<br>2 min | after pulse / gradually increasing | EASY: without regulation<br>CLINIC: 1–100% | Rectangle   | EASY: 20 min<br>CLINIC: 20 min (5–90 min)                                                            |
|                               | promoting vasodilation and blood circulation                                                |                           |               |                   |                                    |                                            |             |                                                                                                      |
| Program No. 6                 | DETOXIFYING EFFECT                                                                          | 4–12 Hz<br>2 min          |               | 50–81 Hz<br>1 min | Gradually increasing               | EASY: without regulation<br>CLINIC: 1–100% | Rectangle   | EASY: 20 min<br>CLINIC: 20 min (5–90 min)                                                            |
|                               | promoting metabolism and detoxification                                                     |                           |               |                   |                                    |                                            |             |                                                                                                      |

Sequence = the group of frequencies that repeat periodically over the application time.