BREATH SYNCHRONIZED INHALER

MARIN MP3

Innovative solutions

Drug use reduced by half

REVOLUTIONARY SOLUTIONS IMPLEMENTED IN MARIN MAKE YOU REALIZE ITS ADVANTAGES OVER TRADITIONAL METHODS OF DISPERSING INHALED DRUGS

The mode of synchronic aerosol generation, where the substance is generated only during the first phase of patient's inspiration, enables huge drug safety and considerably enhances effectiveness of inhalation therapy.

- **Interactive aerosol generation** with use of breath sensor.
- **The drug is not wasted during expiration** – aerosol is generated in the first 75% of inspiration phase, which is 30% of the whole breathing cycle.
- **You can not deceive the inhaler** – no drug is wasted in the air and the whole amount is inhaled.
- **Exact information of how much drug is inhaled.**
- **The deposition effect.** The aerosol is deposited in lungs by the air inhaled in the last phase of inspiration, thus the first expired is not the drug, but the air.
- **The aerosol generation moment is adjusted** to the patient's breathing pattern. The software recognizes 3 last breaths.
- **Interactive animation (the flying airplane)** encouraging the patient to deep and steady breaths, which improves effectiveness and shortens time of the treatment, causing natural physiotherapy of the respiratory tract.
- **Simple menu** letting you start the treatment right away.

Drug, inhaled in the first phase, is deposited in lungs with air inhaled in the second phase of inspiration. This way the drug deposition is optimal and loss of drug minimal. Inhaler continuously adjusts the moment and period of aerosol generation to patient's breathing pattern and frequency (BF), which is caused by mental and therapeutical factors.

The device is controlled with colour touch screen. Menu was designed with help of experienced users, which made it most easy and intuitive to operate. **You can choose to program the precise dose to be delivered or the total volume to be poured into the nebulizing chamber.**

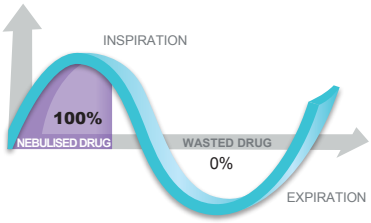
Friendly animation increases patient's engagement in inhalation process and enables monitoring of the running treatment. In saved programs you can enter time, treatment area and dose of the drug, which is very convenient for beginning repeatable treatments.

How much of the active substance reaches the bronchial tree?

According to the literature approximately 20%.

In case of using chambers with inspiration-expiration valves this amount may increase to 30%.

In Marin this amount is doubled.



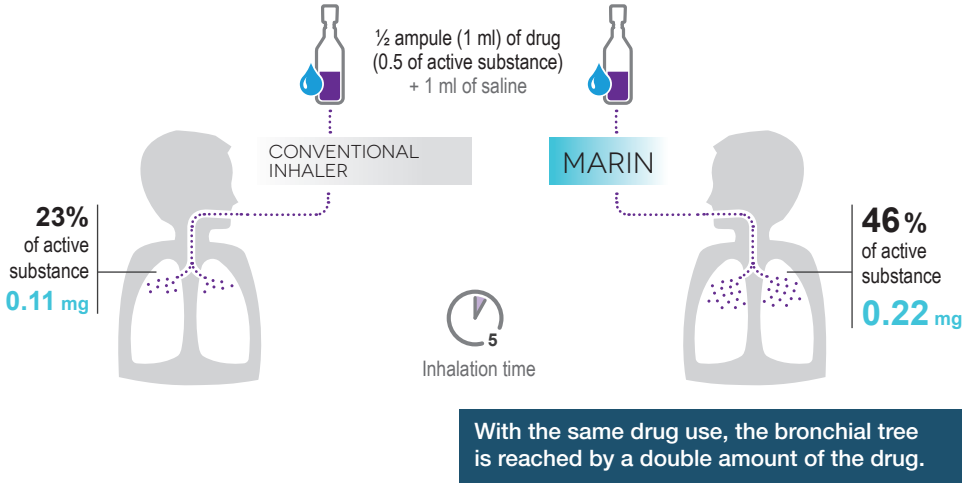
ADVANTAGES

- Effective therapy – excellent drug deposition in the lowest lung parts
- Drug safety – breath synchronized drug generation
- Saving patient and inhalation parameters
- Interactive animation supporting effective treatment
- Comprehensive treatment of respiratory tract
- Vibroaerosol – pulsation module for sinuses treatment
- Treatment programming – enables saving all parameters in a single record and recalling the treatment only with its number
- Timer counts down the treatment time and shuts down the inhaler upon finish
- Touch screen
- Clear and intuitive menu
- Continuous work mode
- Relatively quiet compressor
- For hospital and home use
- 12 months warranty and service

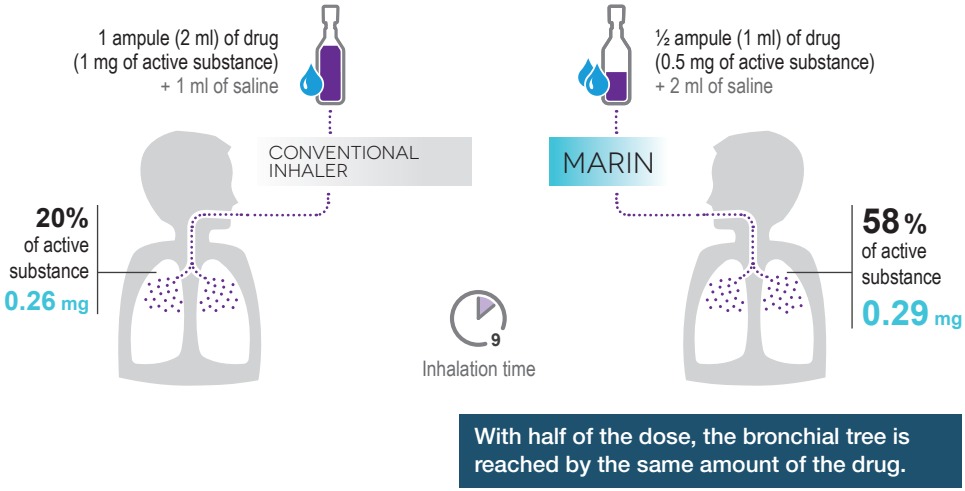
APPLICATION

- Treatment of bronchial and lung diseases such as asthma, allergies, COPD, etc.
- Treatment of nasal sinuses, pharynx, larynx in allergies, sinusitis, pharyngitis, laryngitis, etc.

COMPARISON OF NEBULIZATION WITH CONVENTIONAL INHALER AND MARIN



With the same drug use, the bronchial tree is reached by a double amount of the drug.



With half of the dose, the bronchial tree is reached by the same amount of the drug.

Regardless of the drug dilution with saline, with Marin there is a double dose administered to the lungs.

The dilution makes the treatment time a little longer, which according to the latest inhalation techniques is regarded as a desired effect.

	DOSE (mg)	CONVENTIONAL INHALER	MARIN INHALER
1	Drug amount (ml)	1	1
	Diluter amount (ml)	1	1
	Drug concentration	0.025%	0.025%
	Dose administered to lungs (mg)	0.11	0.22
	Nominal dose in lungs	23%	46%
2	Drug amount (ml)	2	1
	Diluter amount (ml)	1	2
	Drug concentration	0.033%	0.017%
	Dose administered to lungs (mg)	0.25	0.28
	Nominal dose in lungs	25%	58%

Drug concentration 0.5%
Residual volume in conventional nebuliser 0.5 ml
Residual volume in MARIN 0.9 ml

Silver medal at the International Exhibition of Invention LEPINE in France

TECHNICAL DATA

Compressor output	15.5 l/min
Max. pressure	320 kPa
MMAD with RF6+ chamber	1.4 µm / 3.2* µm
FPF (< 5.0 µm) with RF6+ chamber	94% / 73*%
Aerosol output with RF6+ chamber	0.4 / 0.8** ml/min
Vibrations intensity level	0 ÷120 dB
Vibrations frequency	100 ± 3 Hz
Power supply	AC 230 V, 50 Hz
Protection class	I
Dimensions (mm)	345 × 237 × 130
Weight	6.1 kg
Acoustic power level	< 69 dB(A)
Work mode	continuous

* In vitro testing certified by TUV Rheinland LGA Products GmbH Germany in compliance with European Standard EN-13544-1 for nebulising systems.
** Synchronic mode (DS). Average values measured with 0.9% saline solution.

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MANUFACTURER

P.P.U.MedbrytSp.zo.o.
Cylichowska 3
04-769 Warsaw, POLAND
tel. +48 22 846 55 94
fax +48 22 846 22 00
office@medbryt.com.pl
www.medbryt.com.pl

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Distributed by:
PT. Megah Alkesindo
Kompleks Ruko Rawa Bambu
Jl. Rawa Bambu Raya No. 15 G-H
Pasar Minggu Jakarta Selatan 12520
Indonesia Phone : +62 21 788 44990
Email : info@megahalkesindo.com