

# gako History

The history of the Unguator technology from 1960 up until today

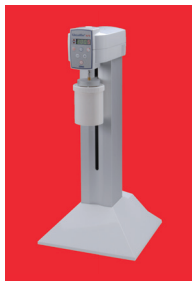
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The pharmacist and inventor of the Unguator technology, Albrecht Konietzko laid the foundation of today's standard of automated pharmaceutical compounding all before completing his university education. After 30 years of research and development the technology was ready for the market. The 1992 registered patent was approved in 1994 shortly before launching the first generation of Unguator.

After 20 more years of development, successful product expansion and globalization, the next generation, his son Dipl. Wirtsch.-Ing. Matthias Konietzko and his son-in-law Dipl.-Kfm. Timo Normann, MBA, have developed many new innovations. The life in the day of a pharmacy will be simpler and more efficient with two innovative developments, already registered for patent: the Quick-lock coupling and the replaceable lift arm.

- 1960** Initial mixing trials and experiments in a closed system by the pharmacist and Inventor Albrecht Konietzko (1)
- 1992** First patent registration for the Unguator technology
- 1994** Unguator B - The first GMP standard, compounding in a pharmacy up to 200 ml (2)
- 1998** Unguator e - compounding up to 500 ml with automated mixing system (3)
- 2004** Unguator 2000 - fully automated compounding up to 1000 ml and RS232 interface (4)
- 2006** Unguator 2100 - improved usability and USB interface (5)
- 2012** Unguator QMS - validated quality and integrated mixing programs for NRF formulations (6)
- 2015** gako unguator BASIC - Quick-lock coupling, RS232 port, touch panel, integrated time tracking, compounding up to 500 ml with manual, but guided lifting (7)
- 2015** gako unguator EMP - Quick-lock coupling RS232 port, touch panel, integrated time tracking, compounding up to 500 ml with automated lifting (7)
- 2015** gako unguator PRO - Quick-lock coupling, replaceable lift arm, 10.1 inch touch screen, integrated barcode scanner, multiple interfaces for electronic scales, printers, mouse, keyboard, network, preparations up to 2000 ml\*, stirring in medicine bottles\* and more. (8)


\* expected availability end of 2016

# Innovation and more!


An overview of the new developments of the gako unguator

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 The mixing shaft will be loaded directly from the front into the lift arm




 Slide the mixing unit upwards




 With a slight turn the unit will be fixed in place - ready!




 The lift arm can be easily and quickly replaced - e.g. to stir in medicine bottles



 Connectivity to accommodate, electronic scales, printers, network, keyboard and more



 State of the art touch technology even for the BASIC and EMP for easy handling and cleaning

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# gako unguator PRO

## Our Masterpiece

The new gako unguator PRO - the complete solution for your pharmacy

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The gako unguator PRO will not only support you in GMP compounding of semi-solid preparations up to 2000 ml, it will also be useful to all other compounding needs in your pharmacy. It is the right step into the future for pharmaceutically elegant compounding.

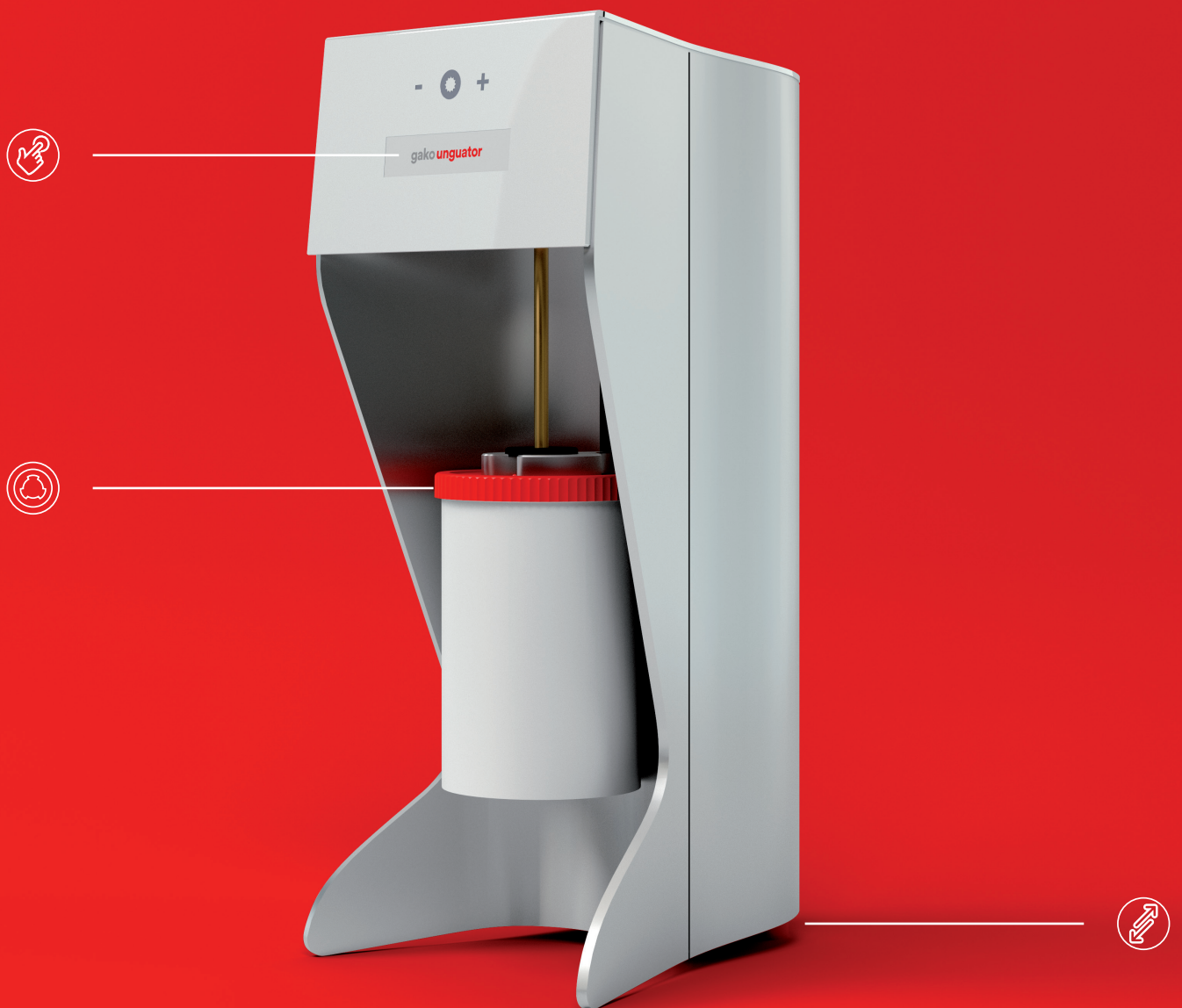
- Mixing jar sizes up to 2000ml\*
- Preparation in a medicine bottle\*
- Quick-lock coupling
- Replaceable lift arm
- 10.1" touch display
- Intuitive user manual including validated mixing programs
- Integrated barcode scanner
- Automated and free online updates
- Interface for laboratory scales, printer, peripheral equipment, network with 4 USB-, 3 RS232- and 1 RJ45-port/-s
- Integrated QM functional test (IQ/OQ)
- Remote inspection via **gako service** available
- Integrated help menu
- Quiet operation due to optimized mechanical system and electronics
- More compact setup with enhanced performance
- Rinsable keypad and extensive accessories



\* expected availability end of 2016

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# gako unguator BASIC & EMP

## Our Classics of the Future

The gako unguator BASIC and EMP - more than just the standard for your pharmacy

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The gako unguator BASIC and EMP will guarantee a GMP compounding from semi-solid preparations up to 500 ml. You only have to decide if you want to lift the jar by hand with the gako unguator BASIC or have it completely automated with the gako unguator EMP.

Common features:

- Mixing jar sizes up to 500 ml
- Quick-lock coupling
- Touch panel
- Intuitive and user friendly guide
- Mixing time settings
- Ten different mixing speed settings
- Integrated time tracking of total mixing time
- ID-number generated after each mixing process
- Integrated QM functional test (IQ/OQ)
- 1 RS232 Port
- Quiet operation due to optimized mechanical system and electronics
- More compact setup with enhanced performance
- Including extensive accessories

Distinguish features:

- BASIC: manual guided lift arm
- EMP: automated lift arm



# Comparison of the gako unguator Devices:

All important facts about the gako unguator devices at a glance

	BASIC	EMP	PRO
jar sizes [ml]	15 - 500	15 - 500	15 - 2000*
preparation in a medicine bottle			■*
manual guided lift	■		
automatic lift arm		■	■
replaceable lift arm			■
integrated time tracking	■	■	■
rpm	300 - 2400	300 - 2400	300 - 2400
functionality test (IQ / OQ)	■	■	■
ID-output for easy documentation	■	■	■
weight	10 kg/22 lbs	11 kg/24 lbs	16.5 kg/36 lbs
dimensions d x w x h	255 x 221 x 512 mm	255 x 211 x 512 mm	339 x 293 x 670 mm
touch technology	Touch - Panel	Touch - Panel	1.1 inches Touch - Screen
USB-Ports			4
RS232-Ports	1	1	3
RJ45-Ports			1
integration of electronic scales, printers, network	via optional gako terminal	via optional gako terminal	
rinsable keyboard included			
integrated "help" menu			■
performance mixing motor	80W	80W	160W
performance lifting motor		54	54

\* expected availability end of 2016



# The gako unguator Accessories

Previous gako unguator accessories are compatible with the new gako unguator BASIC, EMP and PRO. The new gako unguator accessories can be used with former gako unguator B/R, e/s, 2000, 2100 and QMS.

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The standard mixing blade for suspensions and highly viscous formulations



The disposable mixing blade is ideal for emulsions, gels and low viscous formulations



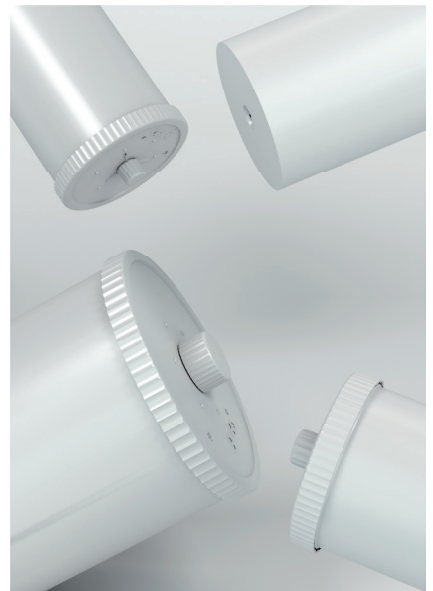
The varionozzles and applicators for specific applications - compatible with all jars



The AirDynamic pumpball system is the perfect assistant for dispensing compounds



The gako unguator coupling for easy and hygienic dispensing from bulk preparations



The jars sized from 15 ml to 2000 ml

# The entire accessories at a glance

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Nr.	Artikel
1	Jar 15-20 ml
2	Jar 30 ml
3	Jar 50 ml
4	Jar 100 ml
5	Jar 200 ml
6	Jar 300 ml
7	Jar 500 ml
8	Jar 1000 ml
9	Jar 2000 ml
10	Jar 300S (with spindle)
11	Jar 500S (with spindle)
12	Spindle 300
13	Spindle 500
14	Bottom 300 - 500
15	Bottom 1000
16	Bottom 2000
17	Lid 300 - 500
18	Lid 1000
19	Lid 2000
20	Jar coupling
21	Jar coupling 2000
22	Applicator + lid S (short)
23	Applicator + lid L (long)
24	Applicator S (short)
25	Applicator L (long)
26	Exact-Dose
27	Varionozzles 1
28	Varionozzles 2
29	Varionozzles 4
30	Disposable mixing blade 15 - 30
31	Disposable mixing blade 50
32	Disposable mixing blade 100
33	Disposable blade shaft 15 - 100
34	Disposable blade shaft 200
35	Standard mixing blade 15 - 30
36	Standard mixing blade 50
37	Standard mixing blade 100
38	Standard mixing blade 200
39	Standard mixing blade 300
40	Standard mixing blade 500
41	Standard mixing blade 1000
42	Standard mixing blade 2000
43	AirDynamic system
44	AirDynamic B (pumpball)
45	AirDynamic S (seal)

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