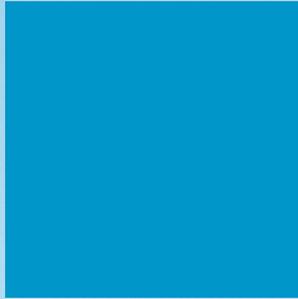




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Dinies . . . . .



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*Naioपुर*

NAIOPUR, NAIOPUR JUMBO I-III





Dinies Technologies GmbH is a innovative, family-owned company specializing in UV-technology and electronics.

We are always open to and looking for new, revolutionary methods and technologies to adopt and invest in.

COMPETENT ■■■■■  
RELIABLE  
■■■■■ INNOVATIVE

Since our founding in 1979, it has been important to us to supply our customers with everything from a single source. In 2005, the two main pillars, electronic production and UV-technology, were further expanded.

“IN PARTICULAR, NEW TECHNOLOGIES AND FIELDS OF APPLICATION IN UV-TECHNOLOGY OFFER A GOOD BASIS FOR AN INNOVATIVE COMPANY POLICY.”

Dinies Technologies GmbH is DIN EN ISO 9001 certified and is constantly monitored and audited by its customers to ensure its effectiveness, to meet their high quality requirements.

In addition, external auditors guarantee a high standard of quality and quality management systems.



## THE PROBLEM

- Germs and mold spores on seeds
- Health risk for consumers
- Crop failure (vertical farming)
- Storage time prior to processing
- Shelf life of products
- Loss of quality due to poor disinfection processes



## THE SOLUTION

- UV-C disinfection of seeds, herbs, nuts, spices, etc. with the patented Naiopur technology from Dinies
- NO loss of quality due to heat or other disinfection processes
- 100% ecological and environmentally friendly
- No water or chemical used, no byproducts to dispose



## THE GOAL

- Extension of shelf life
- Healthy food
- No loss of quality during disinfection
- Reduction of pesticides
- Better germination
- Less crop loss

## SUMMARY



# 2

## ADVANTAGES

### Advantages of Naiopur UV-C Disinfection

- 100% ecological without the use of chemicals or pesticides
- Easy handling with high production efficiency
- Low operating cost
- Low maintenance

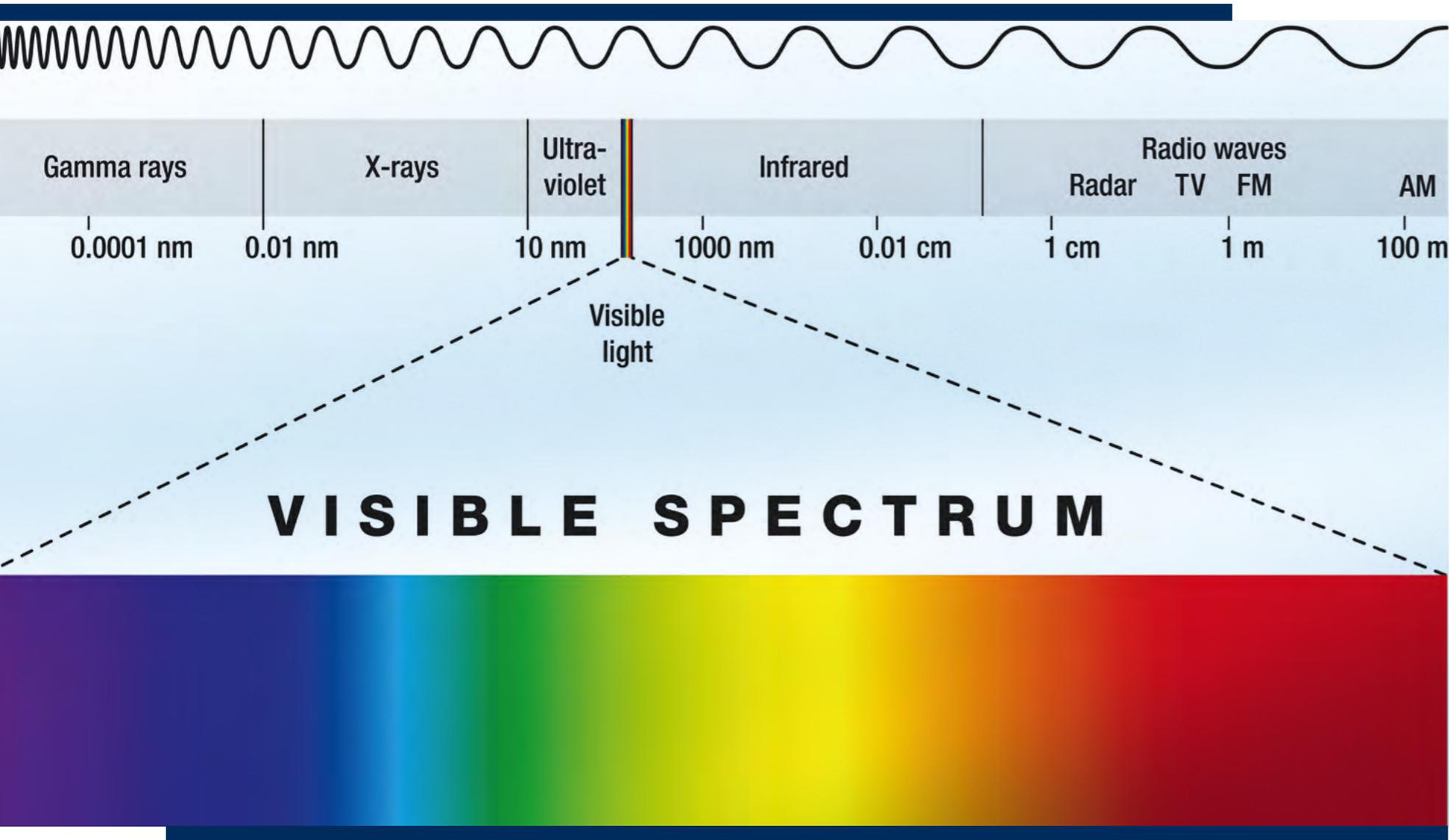
### Advantages for Products

- Disinfection up to 99.9%
- Increased shelf life
- Improvement of germination capacity
- Consistency of the product remains unchanged
- No introduction of contaminated seeds
- Increased seed quality

### Advantages for Consumers

- Healthier food
- Higher product quality
- Increased shelf life
- No chemicals added during product processing





## UV-C LIGHT

Effective hygiene with UV-C: Microorganisms exposed to sunlight are killed naturally. According to this principle from nature, artificial UV-C light was developed many years ago. UV-C light is short-wave radiation in the range of 280-100 nm which is not visible to the human eye.

In the area of 254 nm, UV-C light has a strong germicidal effect, so even dangerous germs, bacteria, viruses and mold spores will be destroyed within a short amount of time without the use of chemicals.

The DNA of the microorganisms is changed in the core so that reproduction is no longer possible. As a result the microorganisms die. The ultraviolet light is therefore an economical and environmentally friendly alternative to chemical disinfection.

# 4

## AREAS OF APPLICATION

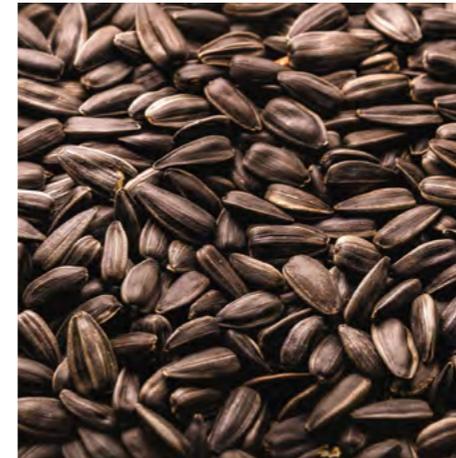
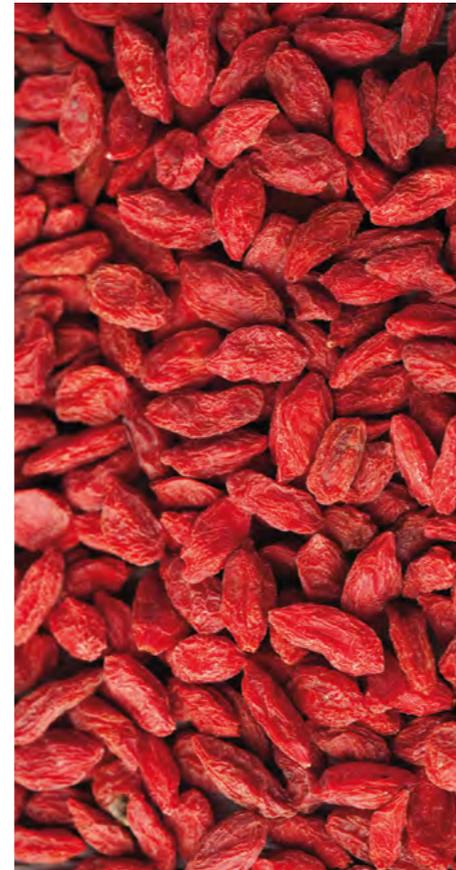
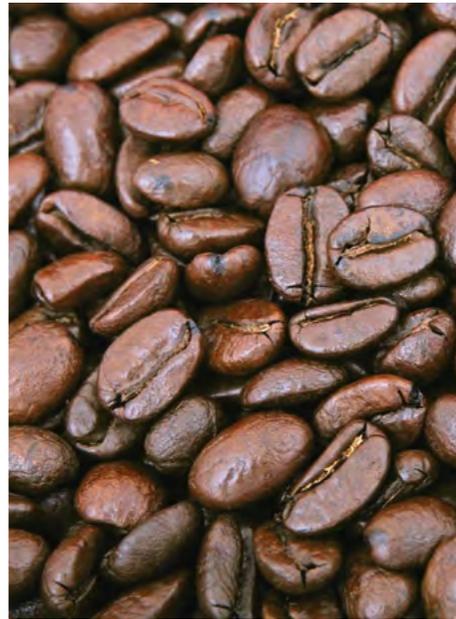
The Naiopur UV-C seed disinfector is very flexible to use.

- By the manufacturer of spices, seeds, herbs, etc.
- By the importer or wholesaler
- In agriculture or vertical farming operations

Almost all dry products can be disinfected with the Naiopur.



# 4<sub>1</sub> PRODUCTS



## The areas of application of the Naiopur series are diverse:

- Seeds (pumpkin seeds, sunflower seeds, ...)
- Nuts (walnuts, peanuts, cashews, ...)
- Grains (wheat, rye, barley, oats, ...)
- Herbs (oregano, parsley, rosemary, ...)
- Spices (chili, cinnamon, pepper, cloves, ...)
- Tea (dried tea leaves, green tea, ...)
- Beans (kidney beans, coffee beans, ...)
- Dried fruits (cranberry, goji berries, ...)



The Naiopur has been specially developed for efficient and cost-effective surface disinfection of seeds, grains, herbs, spices, etc.

The pre-cleaned product is fed via a conveyor belt or a silo hopper onto a transport plate in the disinfection process.

Due to an innovative transport technique, the bulk material is constantly enveloped by UV-C light. UV-C light is a natural component of sunlight, with the important property of germicidal action. In this natural process, the DNA of the microorganisms is altered in such a way that reproduction of the germs is no longer possible. The gentle and natural process reduces germs up to 99.9%.



**5** Naiopur



The Naiopur is the smallest machine in the Naiopur series and is ideally suited for disinfection of small quantities of seeds or spices.

It is mainly used in the field of vertical farming and in areas where relatively small quantities are processed.



Rated voltage	Rated power	Dimensions LxWxH	Lamp power	UV-C power
230V, 50/60 Hz	900W	1800x600x1400mm	540W	175W

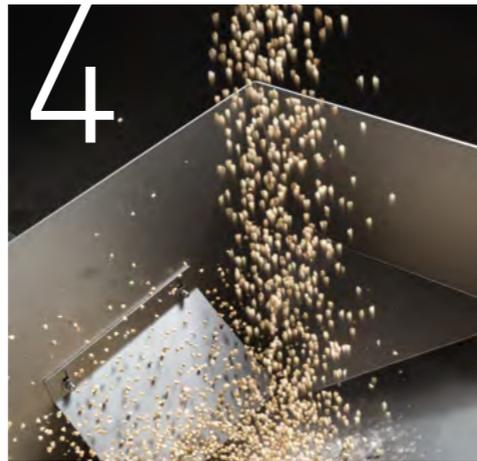
Disinfection width	Disinfection length	Working height
300 mm	900 mm	900 mm

Accessories available separately: Filling funnel. Custom designed machines are available on request.





# DETAILS/ FUNCTION 5<sub>2</sub>



- 1. Safety switch
- 2. Output control
- 3. Dust exhaust outlet
- 4. Feed hopper
- 5. Transport plate
- 6. Replaceable sifter



6

Naiopur<sup>Jumbo</sup>

The Naiopur Jumbo machines are suitable for products up to a diameter of approx. 8mm. Thanks to the integrated output control and the touch display, the Naiopur Jumbo can be set and adjusted to the specific product in order to achieve the best possible disinfection rate.

With the help of the patented Naiopur Technology seeds and other products are disinfected 360° while moving over the transport plate.

- Large product quantities
- Integration into existing production line possible
- Easy handling
- High production efficiency





Pictures contain accessories.

**61** *Naispur* Jumbo



Model	Rated voltage	Rated power	Dimensions L*xW*xH	Lamp power	UV-C power	UV section	Disinfection width	Disinfection length	Working height
Jumbo I	380V, 50/60 Hz	2500W	2420x1146x1298mm	1920W	625 W	1	800 mm	1200 mm	900 mm
Jumbo II	380V, 50/60 Hz	4900W	3854x1146x1298mm	3840W	1250 W	2	800 mm	2400 mm	900 mm
Jumbo III	380V, 50/60 Hz	6900W	5200x1146x1298mm	5760W	1875 W	3	800 mm	3600 mm	900 mm

Dimensions may vary. \*Length without accessories.



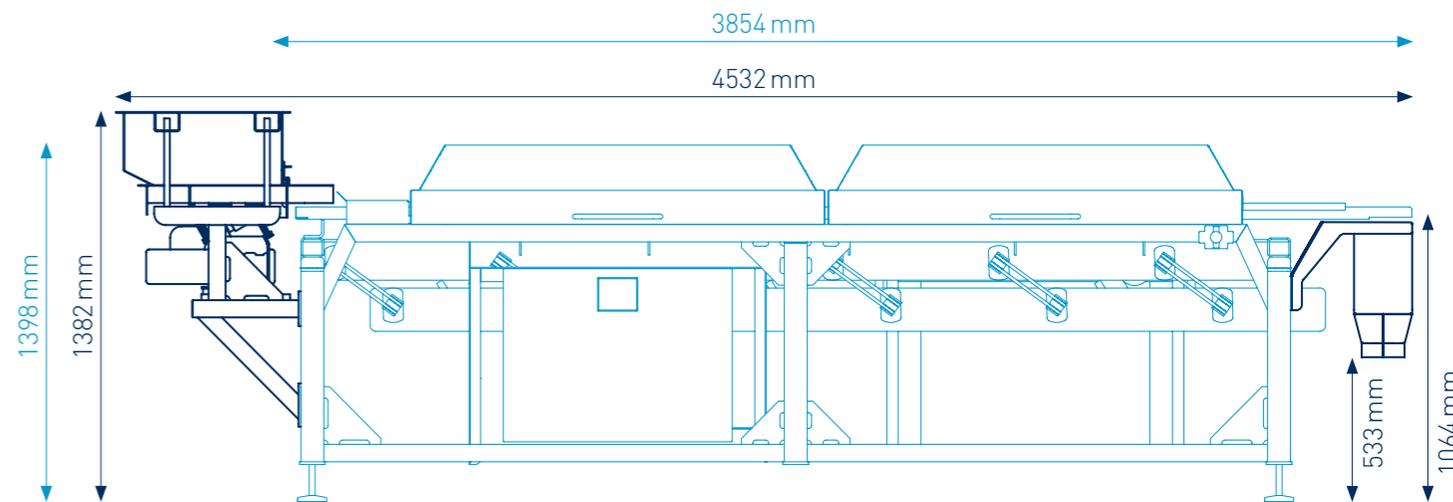
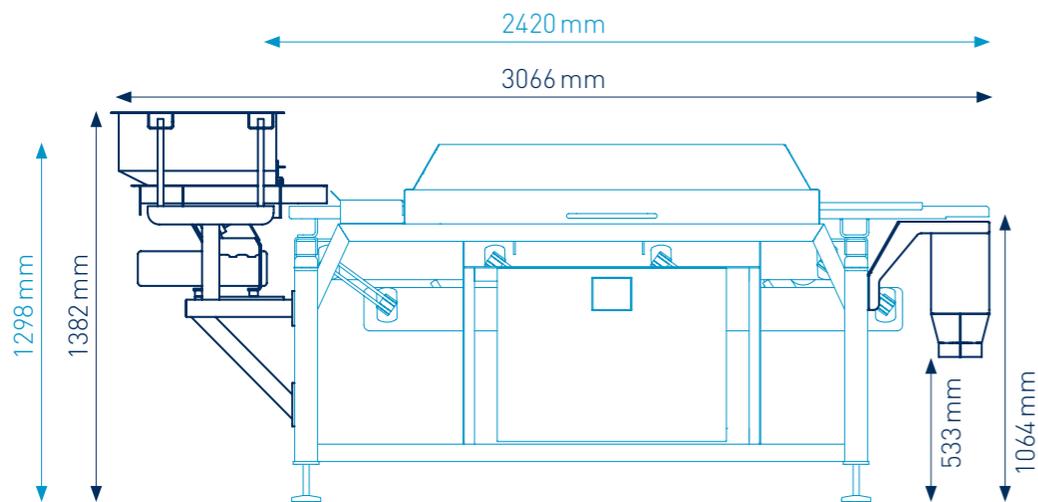
**6<sub>2</sub> ACCESSORIES**



**Silo hopper LxWxH  
(inner dimensions)  
866x562x313 mm**

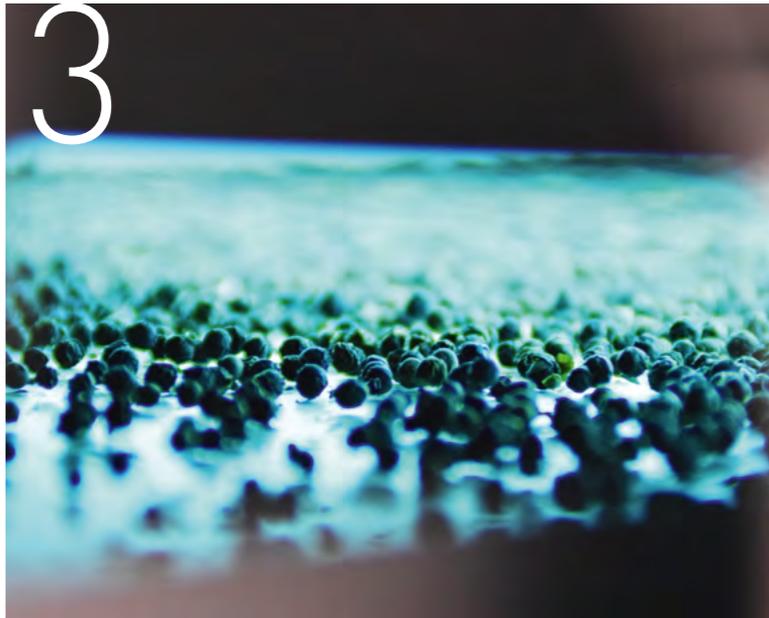


**Filling funnel LxWxH  
811x307x468 mm**



Dimensions may vary. Custom designed machines are available on request.





## DETAILS/ FUNCTION **6**<sub>3</sub>

### The disinfection process

1. The product is placed on the transport plate by a conveyor belt or the Naiopur silo hopper.
2. The vibration technology transports and rotates the products at the same time, so that they are irradiated with UV light from all sides.
3. The seeds pass under the UV light and are disinfected up to 99.9%.
4. At the end of the transport plate, the seeds can be forwarded or directly filled.

