

DUSCHKRAFT®
SHOWER DEHUMIDIFIERS



*We love
warm showers!*

DUSCHKRAFT HOME



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Thank you very much for your interest in our DUSCHKRAFT® Home shower dehumidifier! We are 3 co-founders of a young start-up company from Rostock, called DUSCHKRAFT®. We are working with passion to banish mould forever out of your bathroom. Because mould is very hazardous to humans' health and leads to high renovation costs. The result of our intensive research and development is our award-winning DUSCHKRAFT® Home. Developed by a young team of highly motivated engineers, it is the most efficient and environment friendly dehumidifier available for your bathroom! Every DUSCHKRAFT® Home is handmade in Rostock. Therefore, we can guarantee you best quality and ensure that you get a perfect product.

Convince yourself.

Stefan, Arvid & David



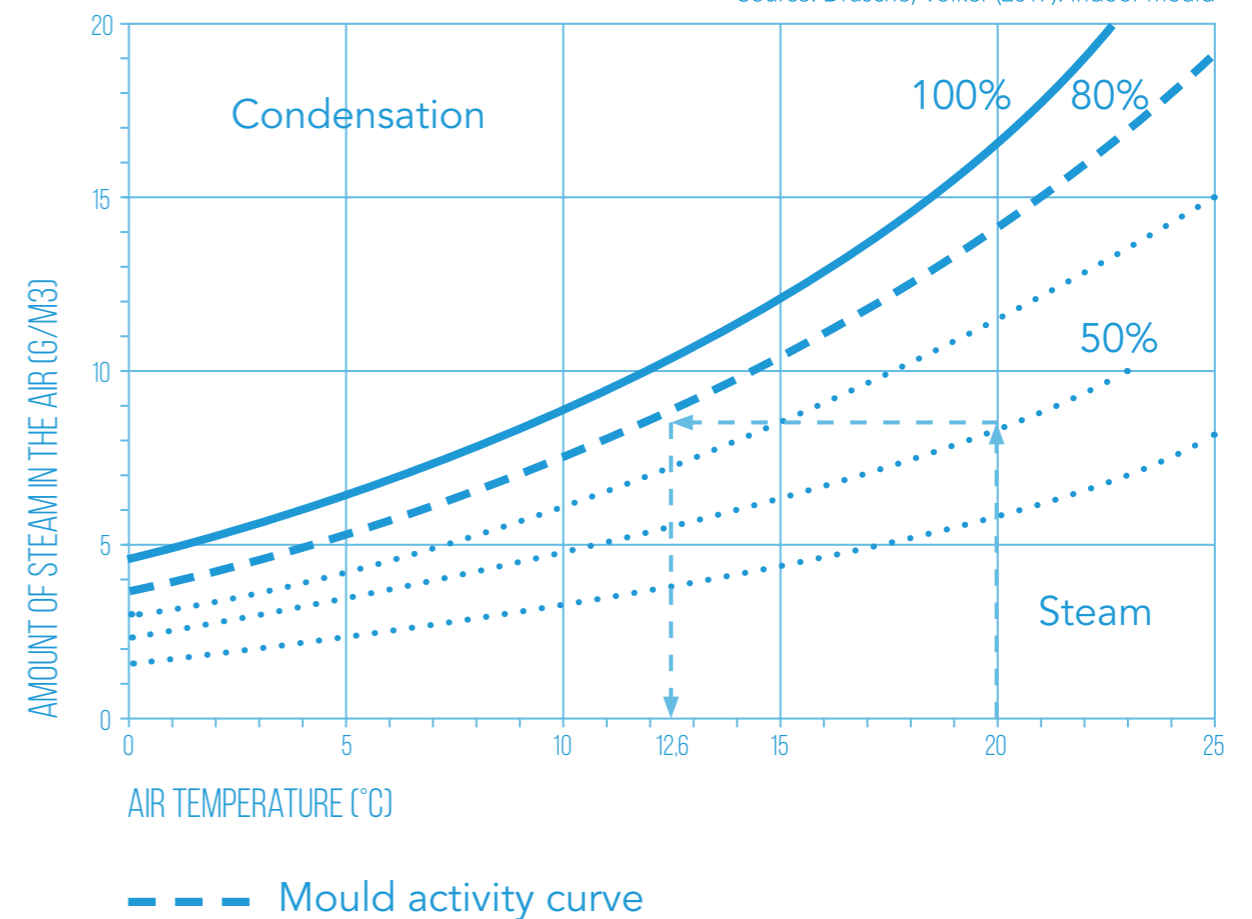
MOULD DEVELOPMENT IN THE BATHROOM!

WHAT ARE THE CAUSES?

For growth that presents a health hazard, mould spores require relative humidity of over 80% for prolonged periods of time, as well as a substrate (grout, wallpaper, mineral surfaces). A bathroom offers perfect conditions for the development of dangerous mould. Thus, every shower produces around 400 - 600 ml of warm steam, which condensates onto cold mirrors, in grout, or on walls.

Because the moisture holding capacity of air depends on temperature, condensation can occur on colder surfaces, even in warm bathrooms with relatively low humidity. Humidity after showering or bathing could hitherto only be extracted through intensive airing, or using optimally dimensioned and maintained extractor fans.

Source: Drusche, Volker (2017): indoor mould



MOULD IN THE BATHROOM

HEALTH PROBLEMS AND CONSEQUENCES

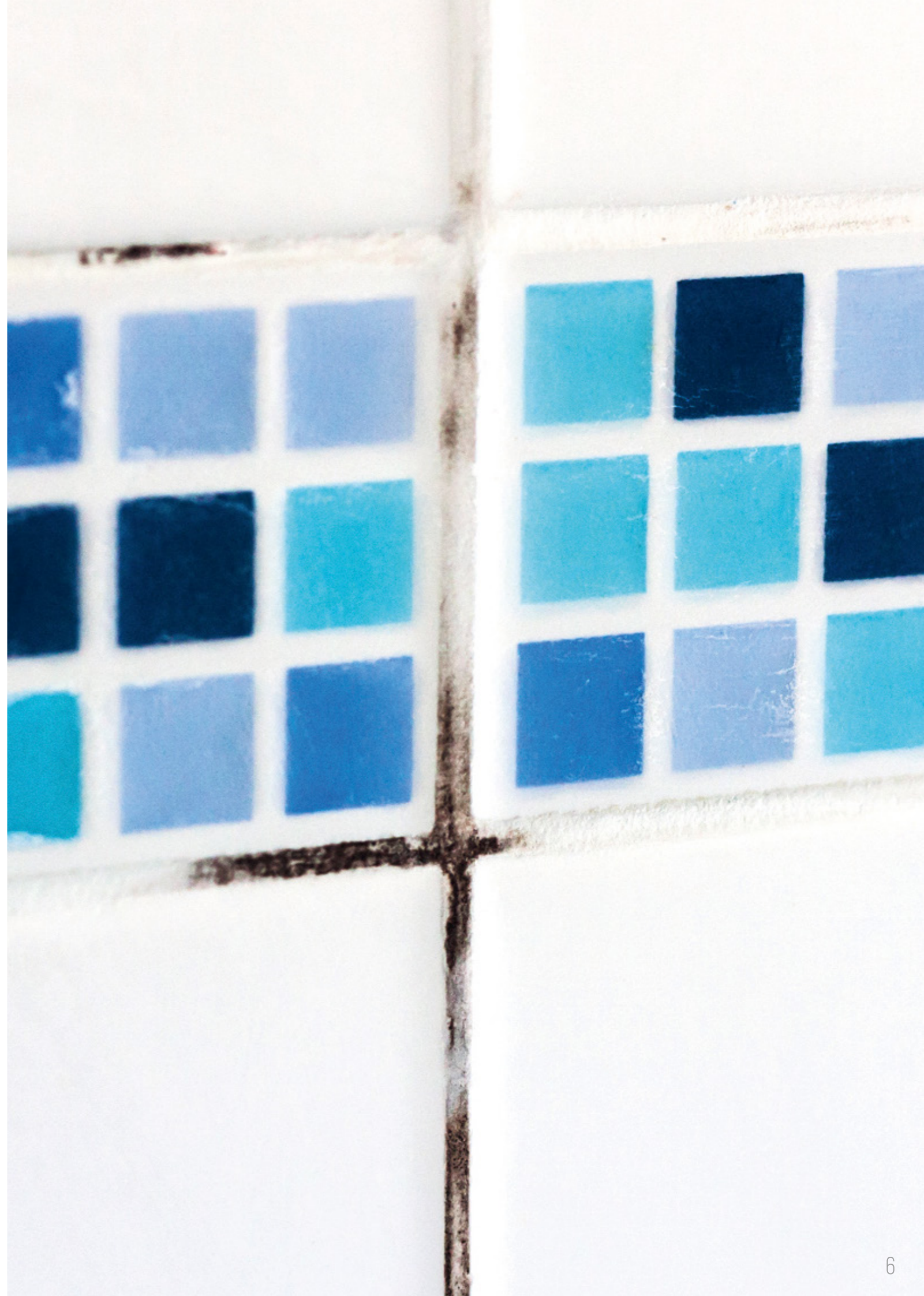
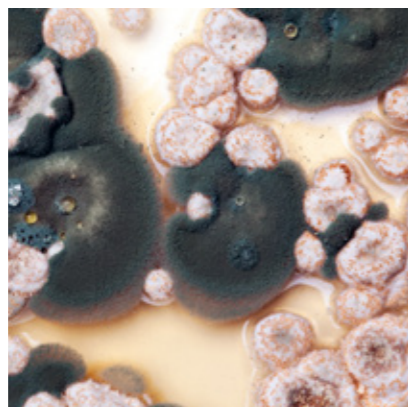
Microbial exposure indoors as a result of mould is a common cause for the development of allergies, or other chronic diseases of the respiratory tract. Mould can be much more than a cosmetic problem for people. Asthma and mould allergy are just two of the many diseases that can develop as a result of long-term contact.

They are triggered by toxins produced by the organisms; these toxins are meant to protect them from enemies and competitors in their natural habitat. They are released into the air via spore, or other cell divisions and, as a result of

their small size of 1.5 – 40 µm, they can penetrate deep into the bronchia, the airways of the lungs.

If the body is exposed to so-called mycotoxins (mould toxins) for prolonged periods of time, they can cause extensive damage. First symptoms of an irritation of the body may include:

- Continuous headaches
- Insomnia
- Sore eyes
- Cold
- Cough





MOULD IN THE BATHROOM

PROBLEMS AND FINANCIAL CONSEQUENCES

Under ideal conditions, mould spores can penetrate walls to a depth of up to 0.5 cm. Simple treatments using bleach-based mould removers will only repress mould on the surface, but can never remove the mould spores on a permanent basis. That is why the hazardous mould will spread again after a short period of time.

Even professional de-moulding, which costs in excess of 1,500 Euro, cannot offer lasting protection against mould. So long as the causes of mould development are not taken care of,

there will always be renewed growth. Only a sustained reduction in air humidity can form the basis for a bathroom that is permanently free of mould.

Traditional dehumidifiers often use toxic coolants and use huge amounts of precious energy. With all that, they still lack the required performance to directly remove peak humidity during showering. Extractor fans often remove warm air from the room unused, and quickly lose their effectiveness as a result of dust.



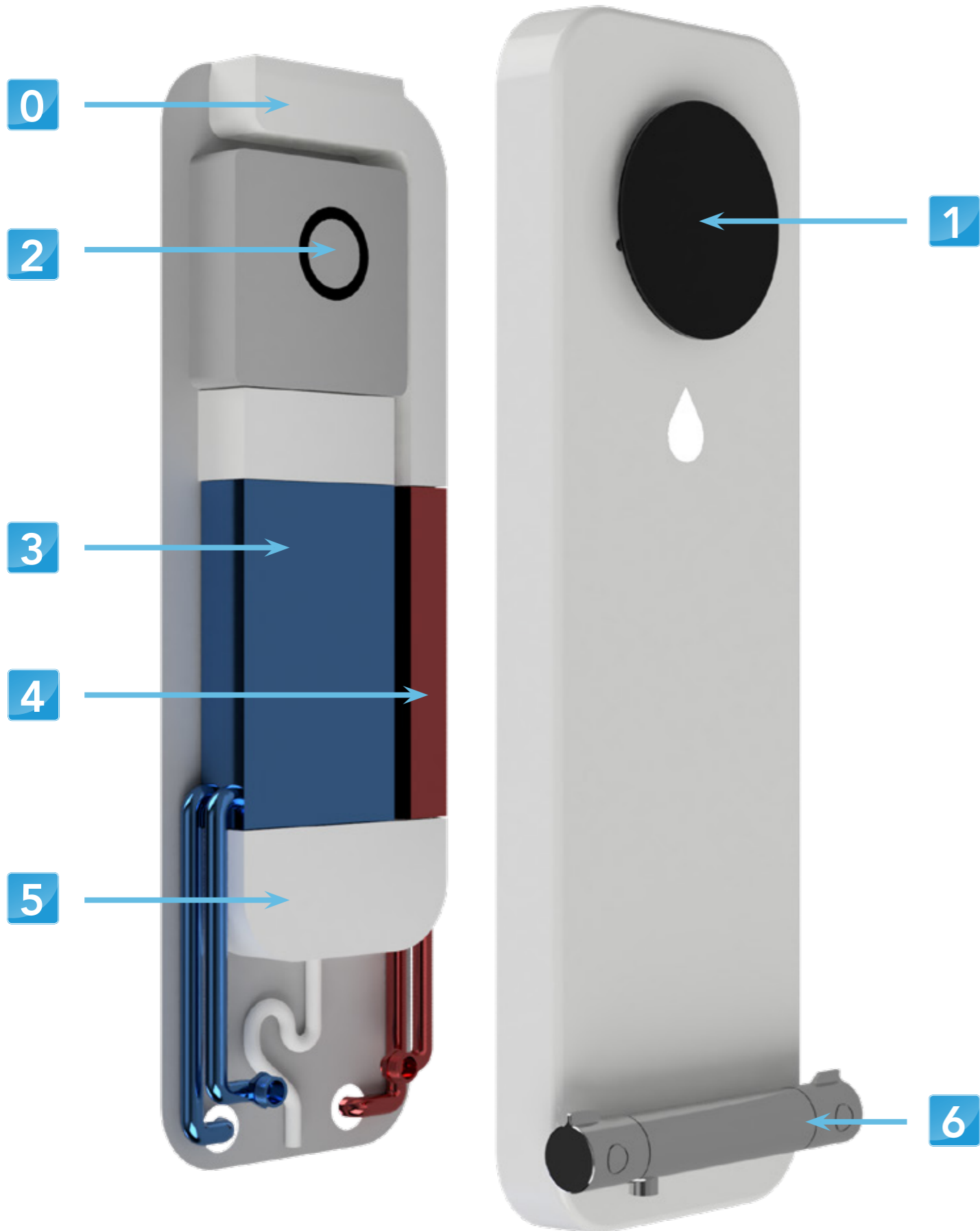
THE SOLUTION: THE DUSCHKRAFT® HOME!

The DUSCHKRAFT® HOME can ensure that mould problems in your bathroom will soon be a thing of the past!

The steam that is generated by showering is directly aspired in this device and brought to condensation in a heat exchanger. The cold water that flows into the shower is used as an innovative and environmentally friendly coolant. This permits functions such as to directly dehumidify around 65%. The heat transfer of the warm steam to the cold water heat exchanger furthermore warms the cold water from an average of 10°C to 13 - 18°C, which reduces the hot water requirement for reaching a comfortable shower temperature of 38°C.

The DUSCHKRAFT® HOME offers a sustainable solution to avoid mould in your bathroom, while also saving cost in the generation of warm water.





THE DUSCHKRAFT® HOME

DESCRIPTION OF AMBIENT CONDITIONS

DUSCHKRAFT® HOME needs a few system requirements the optimal dehumidifying. The following conditions substantially determine the efficiency rate of the system and should be clarified before installation at the specific site:

- Cold water temperature of 4°C to 18°C
- Hot water temperature of 55°C to 65°C
- Customary fittings, e.g. mixer tap, single-lever mixer or thermostat
- Power outlet near the shower cabin

- | | |
|-------------------------------|--------------------------------------|
| 0 Air outlet | 4 Warm water heating register |
| 1 Air inlet | 5 Condensation outlet |
| 2 Ventilator | 6 Customary thermostat |
| 3 Cold water condenser | |

OUR AMBITION:

HIGHEST QUALITY AND ABSOLUTE SAFETY



EXCELLENCE. INSIDE AND OUTSIDE.

The DUSCHKRAFT® Home consists of selected materials. The casing for example is made especially durable high-performance plastics, which can be cleaned easily.



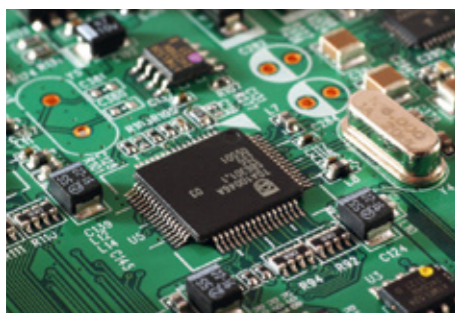
100% STAINLESS STEEL.

All water-bearing parts of the DUSCHKRAFT® Home consist of 100% stainless steel and are Made in Germany. Stainless steel is extremely resistant to corrosion, durable and particularly hygienic.



EFFICIENT AND TRUSTWORTHY.

The DUSCHKRAFT® Home comes with a high-end fan, with an efficient motor and minimum noise levels. It's waterproof in accordance to IP68 and has a guaranteed life of 50.000 operating hours. That is enough for more than 375.000 showers.



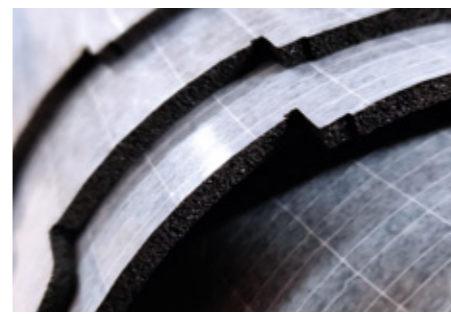
SIMPLY INTELLIGENT.

The DUSCHKRAFT® Home comes with an intelligent controller. It recognises when you start your shower and switches on automatically. As soon as you finish your shower, the remaining cooling capacity will be used until the device switches off.



ABSOLUTELY SAFE.

The DUSCHKRAFT® Home is absolutely safe. It is built in accordance with the strict requirements of DIN 57100/VDE 100 and is operated on 36V. We only use a high-performance plug-in connection for the power connector, which is safe and absolutely waterproof in accordance with IP66.



DESIGNED FOR EVERY DETAIL.

Our DUSCHKRAFT® Home protects your bathroom from hazardous mould. In order to prevent the mould from getting behind the device, we use high-tech insulation materials, which insulates the wall and keep the water away.



EASY MAINTENANCE.

The DUSCHKRAFT® Home has a washable permanent filter. It is easy to remove and can be cleaned directly in the shower. You can open the device by removing 6 screws and then also clean it directly in the shower.



5-YEAR GUARANTEE.

Before you unpack the DUSCHKRAFT® Home it has gone through countless quality testings. Only if every element meets our high quality and security standards, will the product be shipped. That is why we offer a 5-year guarantee.

ENERGY- AND COST SAVINGS

WITH A DUSCHKRAFT® SHOWER DEHUMIDIFIER

With a DUSCHKRAFT® HOME, you don't just save time, because less airing is required, and effectively protect yourself against hazardous mould. Thanks to the heat recovery, your cold water is warmed and you need less hot water for the desired shower temperature. Depending on use frequency and deployed energy carrier for hot water generation, this can result in attractive saving potentials.

Savings as a result of DUSCHKRAFT® HOME correspond to:

- 1x  = 1h watching TV
- 10x  = 1h vacuum cleaning
- 30x  = 3x wash loads
- 50x  = 1.000h light from 10 Watt LED bulb
- 1 year**  = driving 1.800km in an electric vehicle

effective protection from mould

up to **181 KG** CO₂ savings per year*

TECHNICAL DATA

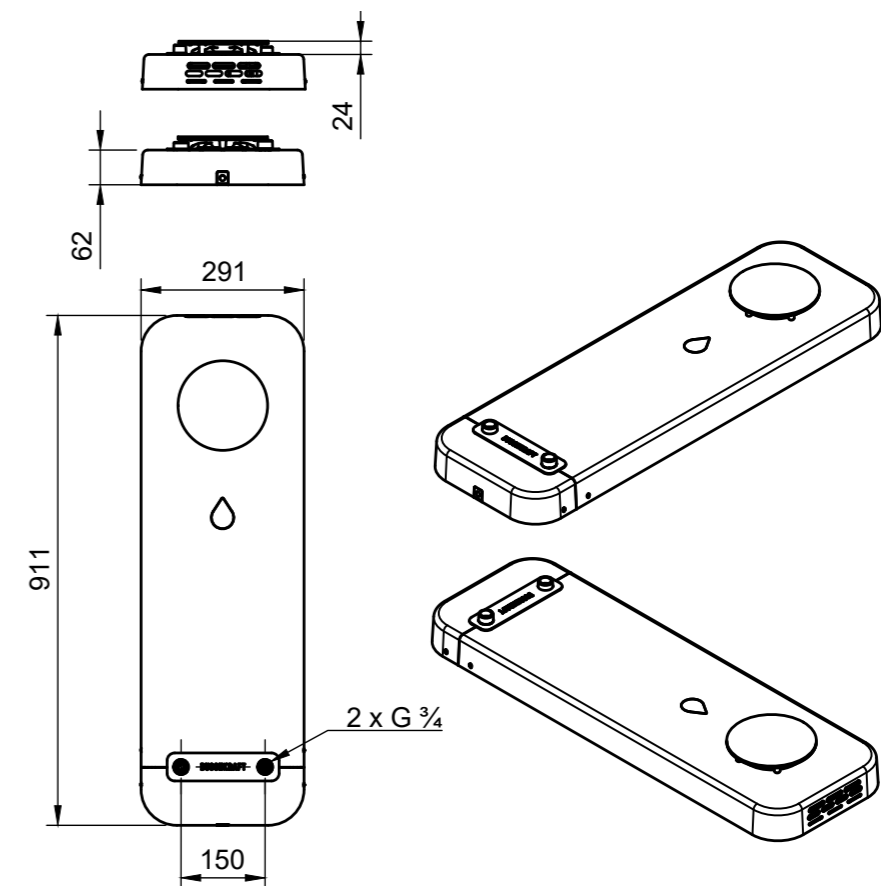
OF THE SHOWER DEHUMIDIFIER

Product

Dimensions BxHxT
 Voltage
 Power input (P1)
 Power
 Max. flow rate
 Acoustic pressure level in 1m
 Motor protection class
 Internal static difference of pressure Δp
 Dehumidification performance
 Latent cooling capacity
 Dehumidification performance factor

DUSCHKRAFT® HOME

911x291x62 mm
 36 V
 17 W
 0,47 A
 81 m³/h
 56 dB (A)
 IP 68
 2,72 kPa = 0,0272 bar
 0,9 l/h
 1,2 kW
 1,1 l/kWh



* Savings for a family of 4, with electric hot water generation (electricity = German average)

** For a family of 4



Duschkraft® GmbH is a start-up of Rostock University.



The INNO AWARD is a sector-independent innovation award founded Germany-wide by the Network of Technology Centres in Mecklenburg-Vorpommern (VTMV).



The DEUTSCHE TGA-AWARD is the national award for companies in technical building equipment that have gained recognition through outstanding commitment to a sustainable future.



The „NEUMACHER Gründerpreis“, awarded by the famous business magazine „WirtschaftsWoche“ is one of the most reputable start-up awards in Germany. DUSCHKRAFT® is the winner in category „industry and technology“.

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