RESEARCH JOURNAL

PROFESSOR KARL ERNST LOTZ

EXTRACT FROM THE RESEARCH WORK OF PROF. LOTZ
ON THE AQUAPOL SYSTEM 2002 – 2005

FOREWORD

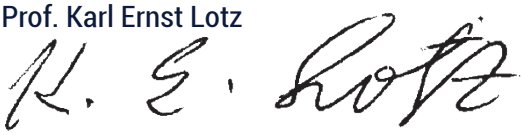
PROFESSOR KARL ERNST LOTZ

I am a long-standing member of the Research Group for Geobiology, so when in 2002 I read in their "Wetter - Boden - Mensch" magazine about the environmentally friendly, innovative, kind-to-buildings AQUAPOL Building Drying System, my fascination as a committed environmentalist and protector of life was truly piqued.

My research colleague, Mr. Robert Endrös (Dipl. Ing.), a government architect, was also mentioned in this context, and I was closely involved in carrying out research with him in the field of radiation for several years up until his death. It was as a result of the AQUAPOL system — the subject of intensive research by Mr. Mohorn for many years — that I immediately felt inspired to participate in scientific work, which has proved to be fruitful over time. Mr. Mohorn's research raised a number of important items, including secured measured variables such as wall moisture, soil moisture, electrical wall potential[1)] and, somewhat indirectly, relative humidity.

My research task was to find other parameters that are changing through use of the AQUAPOL building dehumidification system. Indirect proof has been found in terms of space energy[2)], and you can read about this later. Looking to the future, further research by Mr. Mohorn has illustrated a number of promising perspectives. By modifying the design of the AQUAPOL system, ground humidity tests were successful, as demonstrated by the various postgraduate work still in progress and by our own measurements. Paths are also emerging that are leading into the energy generation sector.

Prof. Karl Ernst Lotz



DEFINITIONS

1) Electrical masonry potential = an electrical measurand with which the reaction in masonry is measured using a special reaction measuring device both before and approx. 1 hour after installation of the AQUAPOL system.

2) Space energy = also called the primordial energy of the universe. It is the carrier of all forms of energy and is present everywhere. Synonyms: Zero-point energy, aether energy, vacuum energy etc.

PROF. KARL ERNST LOTZ

CAREER | BORN IN 1930 († 2012)

- Attended the humanistic secondary school in Mainz.
- Studied Natural Sciences at the University of Mainz.
- Taught for several years at vocational, professional and technical schools in Ludwigshafen am Rhein and Mannheim.
- Lectured full-time for 21 years in construction chemistry, engineering geology, and mathematics at the Biberach University of Applied Sciences in Biberach an der Riss.
- Long-standing member of the Research Group for geobiology in Eberbach.
- Undertook several years of research in radiation biochemistry at the University of Stuttgart.
- Worked abroad in France, Spain, Switzerland, England, Italy, Luxembourg, Belgium, Japan, Brazil, Egypt and Israel.
- Carried out many years of research and investigation into the fields of building biology, geobiology, construction and residential ecology, as well as researching microwaves.
- Relevant publications, also in English, French and Italian.

PUBLISHED TECHNICAL LITERATURE (EXTRACT)

1. Introduction to construction and residential ecology | 2. "Do you want to live well?" | 3. "What can I do to not fall ill?" | 4. Civilisation diseases of Architecture | 5. Research into building biology | 6. Radiobiochemical primary processes taking specific note of the oxygen effect | 7. Aspects of radiation physics, radiation chemistry and radiation biology in and around the house | 8. Structural engineering health measures | 9. The radiation of the earth and its effect on life | 10. The most serious unexplained car accidents due to head-on collisions | 11. Are microwave ovens danger spots? | 12. The issue of microwave transmission of building components

OBITUARY AND ACKNOWLEDGEMENTS, WILHELM MOHORN (ING.)

Professor Lotz was a true pioneer in the field of building biology and geobiology. Until his death in 2012, he had an inquiring mind and thirst for knowledge like no other in the field.

Neither did he shy away from the phenomena of boundary physics, which he liked to analyse using metrological experiments and studies in order to generate new knowledge. By definition, this is the very purpose of an ethical scientist who expands science with new laws and insights for the benefit of humanity. Collaborating with him was both exemplary and inspiring in every respect. Unfortunately, he died unexpectedly before another planned AQUAPOL experiment could take place.

We all think very fondly of him and the time we spent together, his interesting lectures, his research work, and the textbooks he wrote.

Through this research journal and a number of videos, Professor Lotz will forever be a part of our AQUAPOL family.

3 DIFFERENT AREA ZONES IN THE AQUAPOL SYSTEM

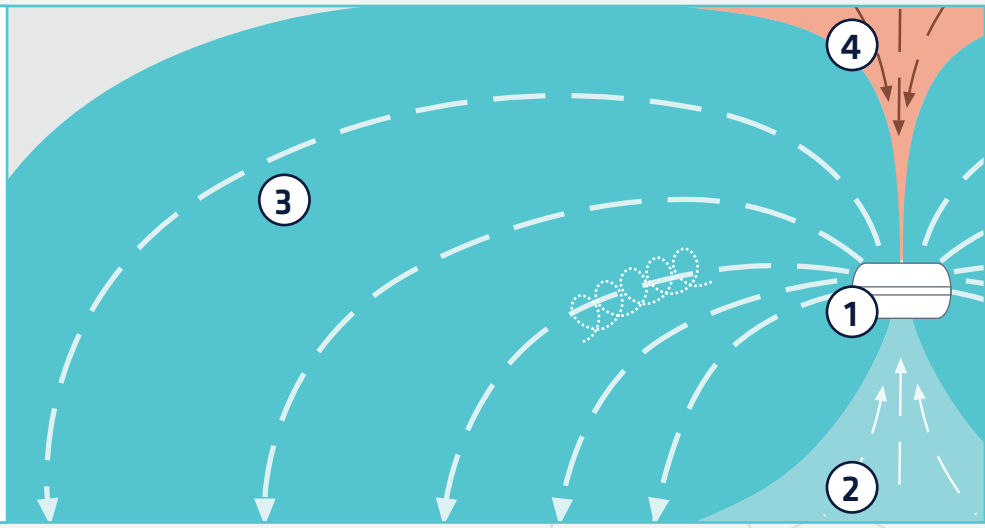
ACCORDING TO THE RESEARCH, FINDINGS AND HYPOTHESIS OF MR MOHORN (ING) THERE ARE 3 SPECIAL AREA ZONES THAT CAN BE DISTINGUISHED IN THE AQUAPOL SYSTEM.

① **AQUAPOL device**

② **Earth energy receiving area**

③ **Effective area,** ideal for bedrooms

④ **Space energy receiving area** (= place of power). A space for relaxation, work, learning etc.



The **AQUAPOL DEVICE** ① picks up a

natural gravomagnetic[1] field of the earth with a certain frequency[2] in a funnel-shaped manner from its receiving unit in the **EARTH ENERGY RECEIVING AREA** ②

EFFECTIVE AREA ③

In the device, this earth energy is transformed in a clockwise rotation by a polarisation unit[3] (polarisation effect) and is released into the effective area. The transmitted field of effect is now directed towards the ground. The effective area is essential for wall dehumidification as well as for positive biological effects.

SPACE ENERGY RECEIVING AREA ④

In addition, free space energy flows in from above and is transformed into gravomagnetic energy (the generator effect[4]). This increases the effective area 3. The space energy receiving area can be called a "place of power"[5] and is suitable as a place for meditation, work, learning etc., but is unsuitable as a sleeping area since strong stimulation that impacts our sleep takes place there. Through our physico-chemical investigations, we were able to scientifically confirm the peculiarity of these three spatial areas within the AQUAPOL system, as can be seen from extracts of the research below

IMPORTANT DEFINITIONS

1) GRAVOMAGNETISM = a combination of gravitational waves and magnetic field waves from the earth, which were discovered and researched by Mr. Mohorn (Ing.) and had been hitherto unknown in the scientific world.
2) FREQUENCY = Number of oscillations per second.
3) POLARISATION UNIT = Alignment of energy waves in a certain direction of rotation (one coil component).
4) GENERATOR = a specific antenna device that converts one form of energy into another form of energy (in this instance, the conversion of free space energy into gravomagnetic energy).
5) PLACE OF POWER = a space from which the body and mind can draw strength. Examples: Places of pilgrimage, the site of the altar in old historical churches etc.

“AIR IONS” AND THEIR EFFECTS

More negative than positive ions

WHAT ARE “AIR IONS”?

Air is a gas mixture of oxygen (21% by volume), nitrogen (78% by volume), carbon dioxide (0.03% by volume) and noble gases (helium, neon, argon, krypton, xenon, and radon). Ions are electrically positively or negatively charged atoms1) or groups of atoms or molecules2). Ions occur in solid (ion crystals), liquid (aqueous solutions of acids, bases or salts) and gaseous (air) media. The ratio of negative to positive ions in the air is normally 2/3 to 1/3 (in modern buildings, this is often the other way round).

WHAT ARE NEGATIVE “AIR IONS”?

If mixtures of molecules in the air contain more negative charge carriers (electrons) than positive ones, these are so-called negative “air ions” or, perhaps more precisely, negative ions in the air.

WHERE DO THEY FREQUENTLY OCCUR?

When water hits an obstacle ("splashing": the Lenard effect) a strong surplus of negative charge carriers is formed. Negative “air ions” are therefore increasingly produced when taking a shower, or by a waterfall or fountain, as well as when a candle is burning, when using a lighter, or when a fire is lit in an open fireplace, a stove, etc.

WHAT EFFECT DO THEY HAVE? (Medical findings)

The positive effect of “negative ions” on well-being, physical and mental efficiency, are well-known. The partial pressure3) of oxygen in the blood rises, while the partial pressure of carbon dioxide falls. The breathing rate is reduced and the metabolism of water-soluble vitamins increases. The pH value of blood4) increases, as does the secretion capacity of the mucous membranes. Oxygen is more effectively bound to the blood pigment, leading to an increase in performance for athletes, pupils, etc.

When it comes to the healing of diseases, they also help suppress the vegetative nervous system, while weakening and accelerating the course of infectious diseases.

DEFINITIONS

1) Atoms = smallest building blocks of chemical elements
2) Molecules = union of several atoms, mostly in chemical compounds
3) Partial pressure = pressure of a specific gas in a gaseous mixture
4) pH value = numerical quantitative measure of acidic, neutral or basic behaviour of aqueous solutions.

AQUAPOL INFLUENCES "AIR IONS"

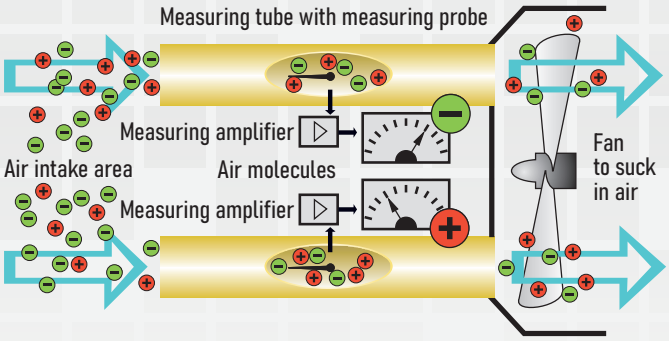
According to Prof. Eichmeier, a **dual-channel ionometer** was used to carry out simultaneous measurements of negative and positive ions in the air. Measurements from short-term experiments and measurements taken over a period of several days or weeks showed that when the AQUAPOL system is used in its effective area and space energy receiving area, a **significant increase in the proportion of negative ions in the air** occurs.

And it is precisely these ions that are scientifically known to have a particularly beneficial effect on people's well-being. For measurements taken with the dual-channel ionometer, the respective ratio of negative to positive ions is calculated for each measurement during evaluation.

If this common ratio is above 1 in absolute terms or above 100% in percentage terms, there are more negative than positive ions in the air within the area being analysed.

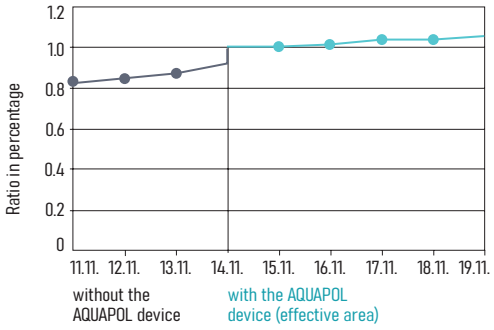
The atomisation of water, for example near a waterfall, creates negatively charged ions in the air. These **purify, activate and refresh the air, increasing the quality of life**.

2-channel ionometer principle

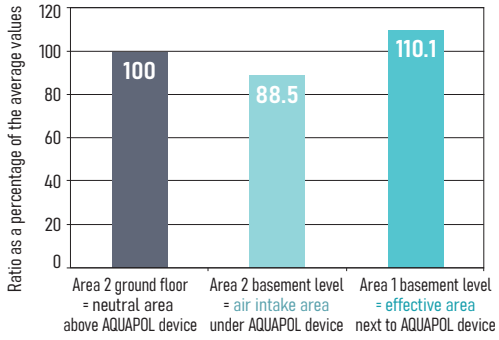


The scientific investigation into the "air ion balance" in the sphere of influence of the AQUAPOL device showed that the proportion of negative "air ions" decreased by approx. 11% in the earth energy receiving area (= biologically more negative), increased by approx. 10% in the effective area (by approx. 17% with a continuous measurement; biologically more positive) and increased by approx. 38% in the space energy receiving area (biologically very positive).

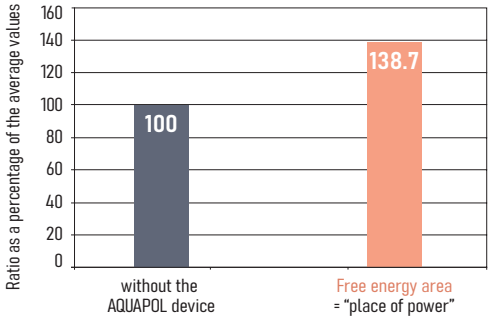
Ion duration measurements in the air with the AQUAPOL dehumidification system



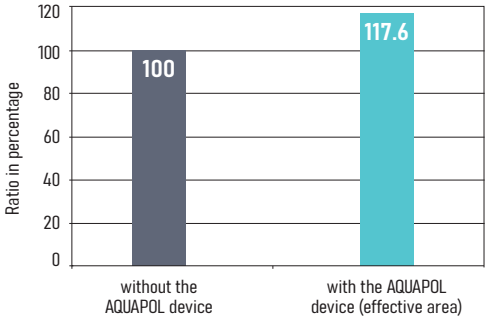
Determination of the ratio of negative to positive ions in the air

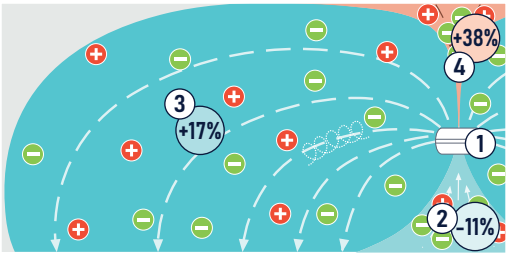


Determination of the ratio of negative to positive ions in the air



Ion duration measurements in the air with the AQUAPOL dehumidification system





① **AQUAPOL device**
② Earth energy receiving area
③ Effective area ideal for bedrooms
④ Space energy receiving area (= place of power). A space for relaxation, work, learning etc.

AQUAPOL REDUCES THE RADIOACTIVITY OF THE AIR

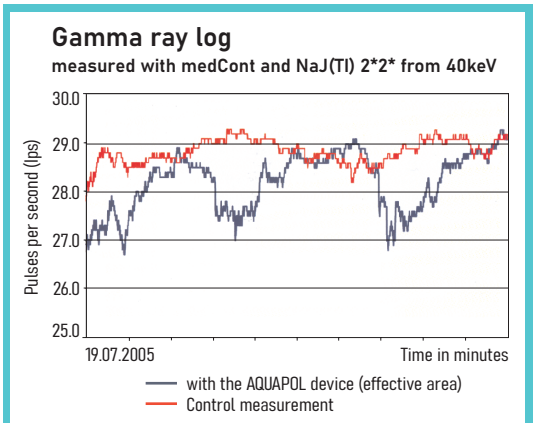
Natural radioactivity consists essentially of alpha rays (double positively charged helium atomic nuclei), beta rays (negatively charged electrons), gamma rays (a radiation without charge that penetrates strongly into matter, similar to X-rays) and neutron rays (uncharged radiation from the atomic nucleus). The biological effect of radiation results from the ionisation of atoms and the resulting destruction of chemical bonds. Of particular concern is damage caused to the genetic material of the cells, which can lead to cell changes (cancer) and damage to genes (hereditary diseases). As densely ionising rays, neutrons have a greater radiobiological effectiveness than loosely ionising rays (e.g. gamma rays) when examining the same physical dose.

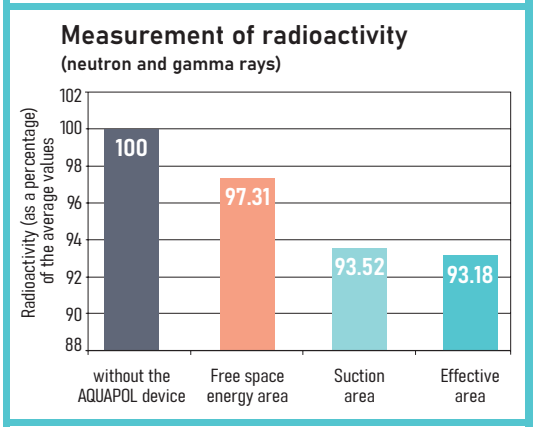
Between 18.06.2003–28.06.2003, radioactivity measurements (gamma and neutron radiation) were taken over geologically undisturbed areas in Biberach an der Riss (Germany) using a Mini-Monitor high-performance proportional counter and Digi Counter.

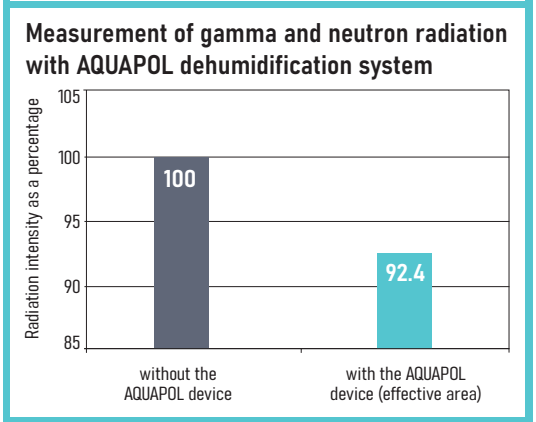
In the space energy receiving area: 97.3% (= a radiation reduction of 2.7%); in the earth energy receiving area: 93.5% (= a radiation reduction of 6.5%); in the effective area: 93.2% (= a radiation reduction of 6.8%).

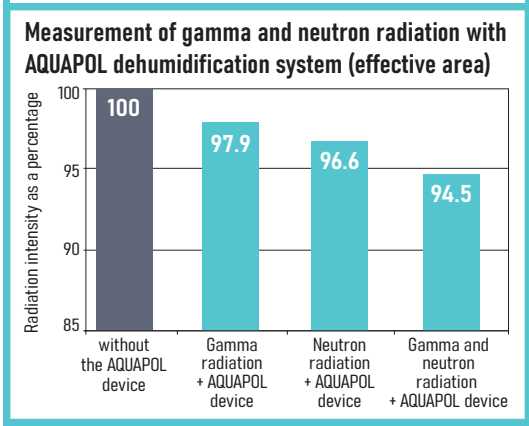
On 12 July and 13 July 2005, new measurements of gamma and neutron rays were taken in Biberach an der Riss (Germany) in the effective area of the AQUAPOL device, looking at a geologically undisturbed area. This time, two measuring devices were used – the Mini-Monitor with Digi Counter and a BGX-3 radiation probe. The reduction of radiation brought about by the AQUAPOL device was 7.6% compared to the control level (without an AQUAPOL device).

On 19 July 2005, radioactivity measurements were taken over a groundwater course in Deisenhausen (Germany), both with and without AQUAPOL equipment. Gamma radiation was measured using medCont and a NaJ(TI) scintillation counter 2*2" from 40 keV. The medCont device with plastic scintillation detector 4*4" was used to measure neutron radiation. The reduction of gamma and neutron radiation in the effective range of the AQUAPOL device was 5.5% overall. When the gamma radiation was measured again in Deisenhausen over a period of 41 hours, the radiation was reduced by 8.5%.









AQUAPOL REDUCES THE SURFACE TENSION IN WATER SAMPLES

WHAT IS SURFACE TENSION?

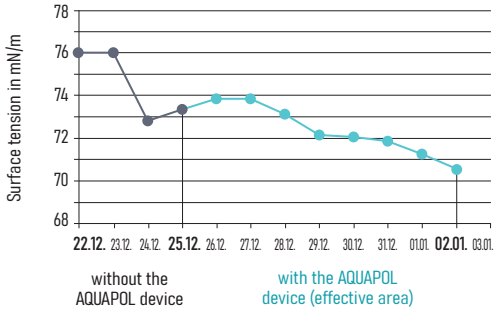
The molecules lying on a liquid surface have a surface energy. The force that holds the molecules together is called surface tension.

The surface tension forms water drops, water streams, waves, etc. It allows insects that are heavier than water to move on an intact water surface and it supports smaller objects (needles, coins) or insects (water striders). The higher the temperature of the water, the lower the surface tension, and therefore the higher its dissolving and cleaning power. We actually take advantage of this phenomenon every day when we cook, wash, clean, make tea, coffee, etc.

Ice-cold drinks should be avoided, as they have a much higher surface tension than that of our digestive juices, meaning that they can upset the digestion process.

The changed surface tension of the water is an indication of the energisation that took place. At a low surface tension, a very thin "water film" is formed, which has the thickness of a molecule (0.00026 microns) with a very, very large surface area. Since only three-dimensional bodies are subject to gravity[1], there is practically no gravity present in this two-dimensional "water film".

Measuring the surface tension of Volvic water[2] with the AQUAPOL dehumidification system



DEFINITIONS

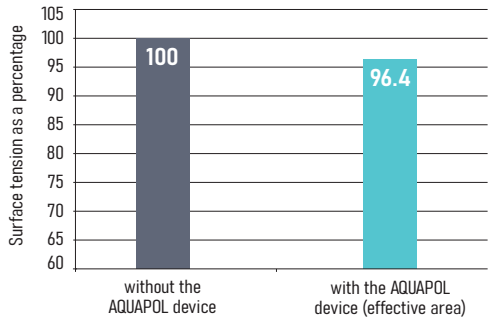
1) Gravity = attractive force (gravity) e.g. of the earth
2) Volvic water = still (non-carbonated) mineral water

Our task was to investigate the impact of the AQUAPOL device on the surface tension of tap or Volvic water samples[2] compared to air, first of all in the effective area of the AQUAPOL device.

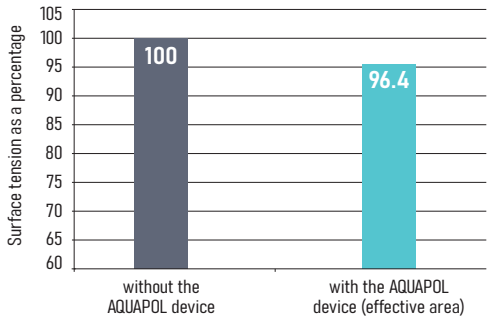
The Krüss tensiometer was used for the measurement, which works according to the ring break-off method of a water film. Initially, water samples were measured over a few days as a control, until the measured value remained constant. The AQUAPOL system was then used and the measurement was continued again for a few days until the measured value remained constant.

"The surface tension decreased in relation to the control values for tap water by 3.6%, and for Volvic water by 4.5%."

Measuring the surface tension of water with the AQUAPOL dehumidification system

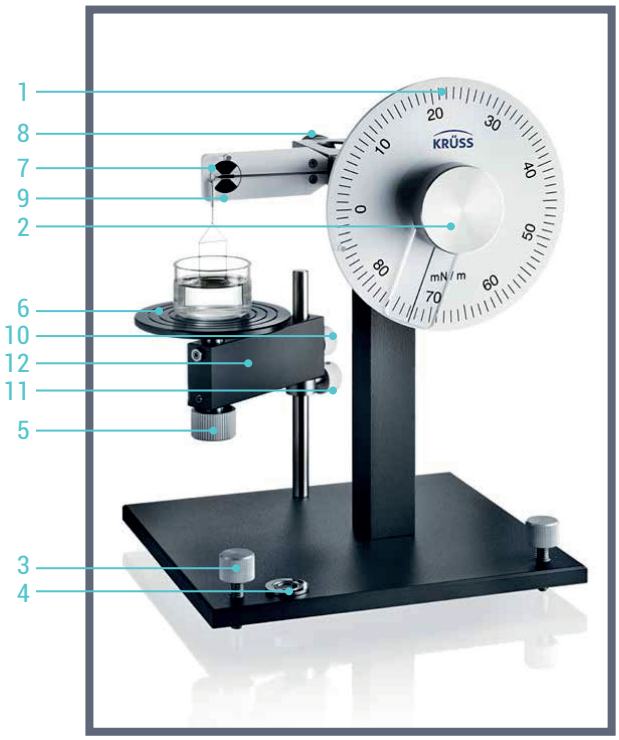


Measuring the surface tension of Volvic water[2] with the AQUAPOL dehumidification system



CONSTRUCTION OF THE TENSIOMETER K6

(1) Scale in nM/m
(2) Handwheel with reading index
(3) Screws for level control system
(4) Spherical spirit level
(5) Micrometric screw
(6) Sample table
(7) Marking
(8) Handwheel for adjusting the zero position
(9) Scale beam
(10) & (11) Handwheels for fixing the crossbar
(12) Sample table support



AQUAPOL CHANGES PH VALUE IN WATER SAMPLES

WHAT IS THE PH VALUE?

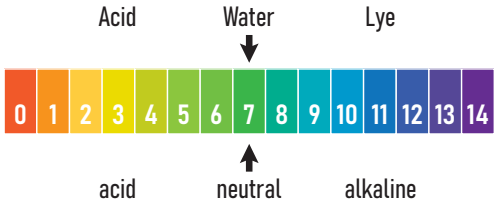
pH = Latin pondus hydrogenii = weight of hydrogen.

The pH value is a quantitative measure of the acidic (pH 0 – 6.9), neutral (pH 7) or basic (alkaline) behaviour (pH 7.1 – 14) of a water or aqueous solution.

Acid rain – which is also responsible for forest dieback – has caused the acidity of European waters to increasingly intensify over the past decades. The concentration of acid in a lake can be measured with the help of pH measuring paper or, for scientific purposes, by using precise glass electrodes and electrochemical means.

The starting point for the scale is neutral, which is pure distilled water; this always has a pH value of 7. Values below 7 indicate acids, whereupon values above 7 are indicative of alkaline solutions. The lower the pH value, the stronger the acid present. The scale is graduated so that the acidity increases by a factor of 10 for each value.

pH-scale



Approximate pH values of common substances

Hydrochloric acid 35%	pH = -1	Beer	pH = 5
Hydrochloric acid 3,5%	pH = 0	Skin surface	pH = 5.5
Hydrochloric acid 0,35%	pH = 1	Mineral water	pH = 6
Gastric acid	pH = 1	Pure water	pH = 7
Citric acid	pH = 2	Blood	pH = 7.4
Vinegar essence	pH = 2	Clean sea water	pH = 8.3
Vinegar	pH = 3	Intestinal juice	pH = 8.3
Coca Cola	pH = 3	Laundry detergent	pH = 10
Wine	pH = 4	Caustic soda 3%	pH = 14
Sour milk	pH = 4.5	Caustic soda 30%	pH = 15

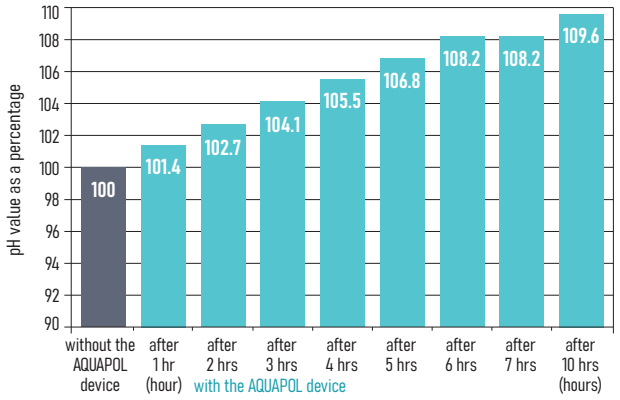
"The physico-chemical method of pH-value measurement should be used to check whether changes in the pH-value in water samples occur as a result of the AQUAPOL System."

Relevant measurements were carried out in the three area zones of the AQUAPOL device using samples of tap water, which were placed open in these zones Hanna Watertest devices.

In earlier investigations, tap water had been used in brown glass bottles that were sealed with glass stoppers and then measured. Looking at this water, the same effects on the pH-value were also achieved by the AQUAPOL System.

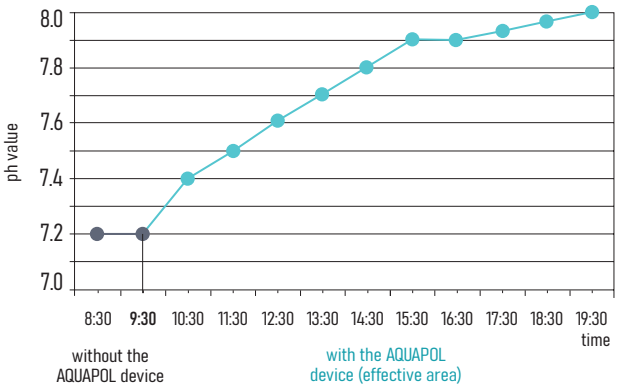
The pH-value measurements as a function of time showed an increase of the pH-value when using the system in relation to the control values (without the AQUAPOL system). For pH-value measurements with the Hanna Instruments water test device, an increase in the pH-value of 8.2%, 2.7% and 9.5% was found in the effective area, the earth energy receiving area and the space energy receiving area when the AQUAPOL system was used over the course of 7 hours.

Measurement of the pH-value in tap water with/without the AQUAPOL Dehumidification System (effective area)

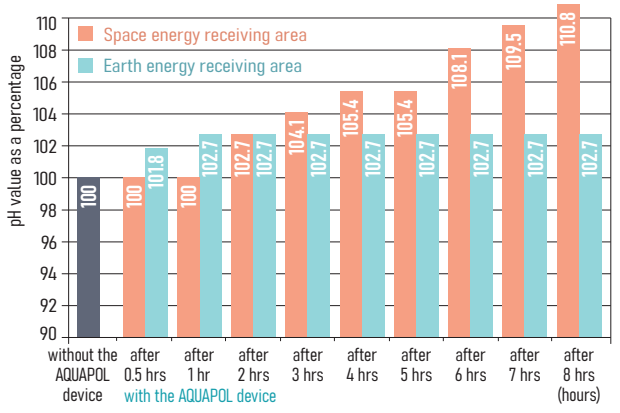


Change (in percentage) of the pH value in water as a function of time

Measurement of the pH-value in tap water with/without the AQUAPOL Dehumidification System



Measurement of the pH-value in tap water with/without the AQUAPOL Dehumidification System (effective area)



Change (in percentage) of the pH value in water as a function of time

THE SPECIFIC ELECTRICAL CONDUCTIVITY IN TAP WATER IS CHANGED BY AQUAPOL

WHAT IS SPECIFIC ELECTRICAL CONDUCTIVITY?

The mineralisation of drinking water, i.e. the quantity of the various total ion-forming minerals and substances in the water, is mainly measured by determining the specific electrical conductivity in micro-Siemens. The higher a water is mineralised or the more dissolved ion-forming substances a water contains, the higher its specific electrical conductivity (higher micro-Siemens value) and vice versa.

To carry out the measurements, a Watertest device from Hanna Instruments was used, which allows the temperature, specific electrical conductivity, pH value and redox potential to be measured[1)].

This measuring device was also used to measure the pH value. The control measurements using tap water were carried out before installation of the AQUAPOL system and were carried out until the measured values were constant. After assembly, the measurements were continued and a graphical representation was drawn up.

"The graphs show an increase in the specific electrical conductivity in the effective area, the space energy receiving area and the earth energy receiving area within the AQUAPOL system, which could also be proven objectively with this measuring method."

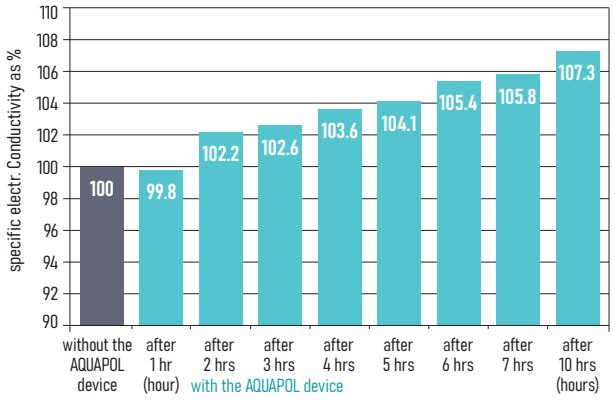
DEFINITIONS

1) Redox potential = electrical voltage value in millivolts as a measure of the absorption or release of electrons in an aqueous solution.

During measurements of the specific electrical conductivity of tap water in Biberach an der Riss (Germany) it was found that by using the AQUAPOL device, the measured values increased by 5.8%, 8.3% and 2.7%, respectively only 7 hours after being installed in the effective area, the space energy receiving area and the earth energy receiving area.

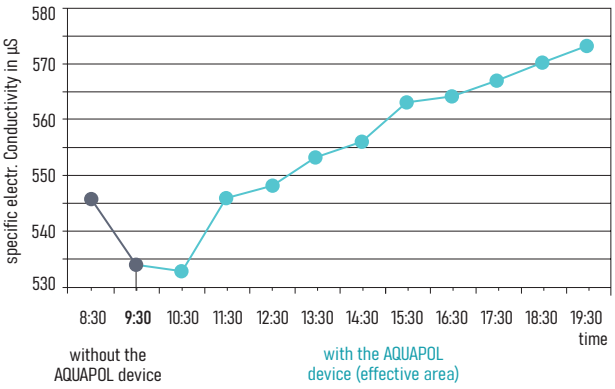
The increase of this physico-chemical parameter could also be confirmed with various objects in other locations where the AQUAPOL system was installed.

Measurement of the specific conductivity in tap water with/ without the AQUAPOL Dehumidification System (effective area)

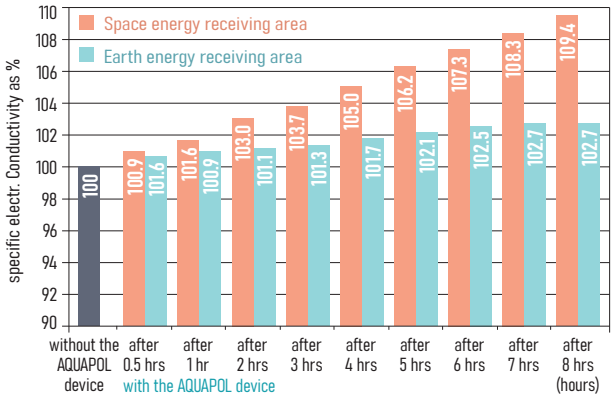


Change (in percentage) of the specific conductivity in water as a function of time

Measurement of the specific conductivity in tap water with/without the AQUAPOL Dehumidification System

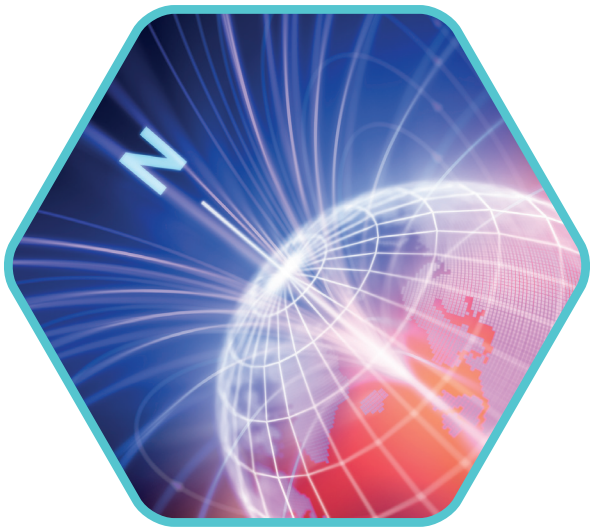


Measurement of the specific conductivity in tap water with/ without the AQUAPOL Dehumidification System (effective area)



Change (in percentage) of the specific conductivity in water as a function of time

MEASUREMENTS IN THE EARTH MAGNETIC FIELD SHOW CHANGES WITH AQUAPOL



WHAT IS A PROTON[1] RESONANCE[2]-MAGNETOMETER AND HOW DOES IT WORK[3]?

This measuring device by Askania is a precision instrument for measurements in absolute values in the geomagnetic field. The total intensity is registered digitally in gamma units using five-digit numerical displays. The accuracy of the single measurement is ±1 gamma or nanotesla. As a measuring principle, the nuclear physical resonance as well as the free precession[4] of protons in the geomagnetic field is used. The physical principle of these measuring instruments is based on the fact that protons have a spin[5], which generates a nuclear magnetic moment[6]. As a result, each proton behaves like a tiny rod magnet. Under normal conditions the spin axes are randomly oriented and the magnetic fields cancel each other out. If the protons are exposed to a polarising field[7] that is as perpendicular to the Earth's field as possible, the spin axes align themselves in the direction of the additional field. If it is switched off, the protons behave like tiny gyroscopes and precess around the direction of the Earth's field (the analogy between the precession of a gyroscope in the Earth's gravitational field and that of a proton in the Earth's magnetic field is obvious). The frequency of the precession movement is exactly proportional to the total intensity of the magnetic field, and it is this which forms the basis of the measuring method.

DEFINITIONS

1) Protons = hydrogen atomic nucleus building blocks
2) Resonance = resonance of an oscillating system with an incoming oscillation of similar oscillation frequency
3) Magnetometer = measuring device for measuring magnetic fields
4) Precession = gyro-like rotary motion
5) Spin = angular momentum of an atomic fundamental particle due to its own rotation
6) Nuclear magnetic moment = the product of pole strength and distance in atomic nuclei
7) Polarising field = field which causes an alignment, e.g. the protons.

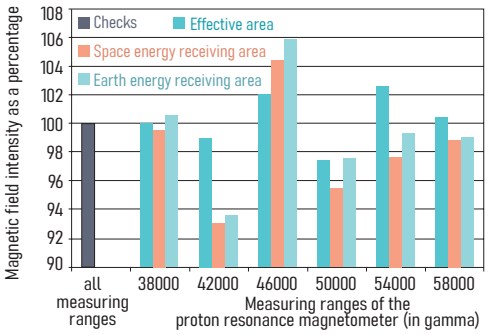
The measuring ranges of the proton resonance magnetometer used here cover the ranges 38 x 103 gamma, 42 x 103 gamma, 46 x 103 gamma, 50 x 103 gamma, 54 x 103 gamma and 58 x 103 gamma.

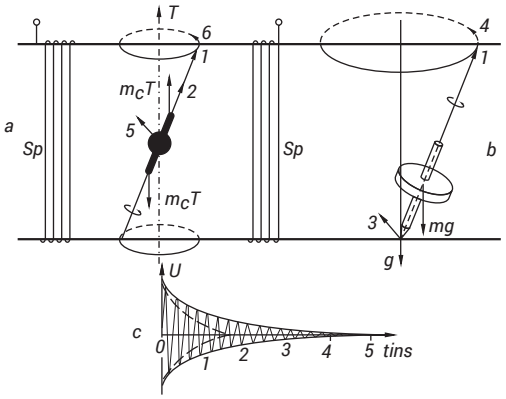
Our measurements in the earth's magnetic field in Biberach an der Riss (Germany) were carried out in such a way that control measurements were taken over the above-mentioned measuring ranges, in the effective area, the space energy receiving area and the earth energyreceiving area respectively. After the installation of the AQUAPOL device, measurements were taken again in the same areas.

The evaluation showed that the geomagnetic field responds differently in thedifferent measuring ranges of the proton resonance magnetometer. In this way, increasing effects can occur in all three spatial areas of the AQUAPOL system, for example in the 46000 gamma (nanotesla) measuring range, or decreasing effects, such as in the 50000 gamma measuring range, with each compared to the control range taken without the AQUAPOL system.

Using a proton resonance magnetometer, absolute measurements in the earth's magnetic field were performed both with and without the AQUAPOL device. It would appear that the earth's magnetic field responds differently in some measuring ranges of the measuring instrument. For example, in the 46000 gamma (nanotesla) measuring range, the full magnetic field is restored up to about 6% and at 42000 gamma (nanotesla), there is a reduction effect on the field of up to 7%. In each case, this is in reference to the control measurements taken without use of the AQUAPOL device.

Measurements in the earth's magnetic field with/without AQUAPOL dehumidification system





Analogy of the precession of a proton in the Earth's field T after switching off the polarisation current *(a)* and the precession of a gyroscope under the influence of the Earth's gravitational field *(b)* (according to TELFORD et al., 1976)
(c) Relaxation of the proton precession signal in a
——— homogeneous magnetic field,
– – – – heterogeneous magnetic field,
1 - angular momentum,
2 - magnetic moment mc of the proton,
3,5 - torque moment,
4,6 - change of angular momentum,
Sp - Polarisation and receiver coil

"These measurements in the earth's magnetic field with the proton resonance magnetometer and the results that have been obtained should confirm the findings of Mr. Mohorn (Ing.) that the AQUAPOL device works with the frequency of hydrogen".

PROF. K. E. LOTZ

"Man was born to rediscover his environment. If you take away his spirit of discovery, he is lost in this world. The game we play is to rediscover all the laws of nature in order that we might conquer the physical universe."

WILHELM MOHORN (ING.)

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