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Crystal Analysis

Water quality of Water Treatment Instruments

Appraisal

Examined Samples:

VitaJuwel GmbH, Water sample: VitaJuwel

Within a comparison study, with a total of two samples, both of which will be compared here, the spagyric crystallisate was examined, which was extracted from the liquid and solid phase of the sample.

The crystals result from extraction of the distillate residue, which first was incinerated and calcined. These crystal salts are united with the distillate and applied to microscope slides. The liquid is evaporated at room temperature. This is how the respective sample-specific crystal images evolve, which allow us to draw a conclusion concerning the quality of the life forces of the sample.

Overview of the production of crystallisate:

1. Distillation of the sample without adding water or other solvents at low temperature.
2. Extraction of the crystal salts from the distillate residue through incineration and calcination.
3. Unification of distillate and crystal salts followed by application to microscope slides.

- Development of the typical, sample-specific crystal images –

The crystal images are all from the same sample and can be reproduced anytime and display the sample-specific crystal images.

Table of Evaluation Water quality of Water Treatment Instruments

Summary of Appraisal:																
	Chemical-physical Testing							Crystal Analysis					Evaluation			
	1	2	3	4	5	6		7	8	9	10	11	12	13	14	15
	Oxygen content in ml/l	pH-measurement	Conductometry $\mu\text{S}/\text{cm}$	Dry residue mg/l	Redox potential in mV	Pollutant and nitrate content	Sub-Total	Formation	Shapes	Dispersion	Intensity	Angle Structures	Dark Zones	Total Points	Grade	Finding
Sample	Value	Value	Value	Value	Value	Value	Percentage weight	From +3 to -3: point share	From +36 to -36: point share	With 1 as best to 6 as worst	Excellent to harmful					
Weight																
Group:																
Energetic Water Preparation																
Company Vita Juwel	10.04	8.02	329	116	112	4.6										
Neutral Sample	2.1	0.6	1.5	2.7	-1.6	2.1	7.4	2.5	2.5	2.5	2.5	2.5	2.5	21.3	1.9	Good to very good
	9.9	7.84	354	116	110	4.6										
	1.9	1.0	1.3	2.7	-1.7	2.1	7.3	0.5	-0.5	0.5	0.5	0	-0.5	7.8	2.8	Satisfactory with a tendency towards good

VitaJuwel GmbH, Water sample: VitaJuwel

Two samples were examined for this test: the neutral sample of the Überlinger tap water and a sample of the Überlinger tap water treated with the instrument of the company VitaJuwel.

Both samples were tested in accordance with the examination methods specified in our book "Instruments for water vitalization."

The examined samples were tested for the same criteria, but chronologically considerably later, so a direct comparison would not be scientifically correct. In the end, a certain comparability still exists since the examination criteria remained exactly the same.

All the samples were extracted under the same conditions and tested for the same parameters, so external influences could be excluded with certainty. In this respect, all samples were treated equitable. The results can be traced back to consciously selected parameters that were tested without reflecting the entire spectrum of quality of a water treatment instrument. Insofar, a rather complex examination of quality is represented here, which however might not reflect the entire capabilities of the water treatment instrument. Therefore, it is possible that in unique cases, testing might reflect results, which do not completely satisfy the manufacturer; however, in such cases, we are not claiming that the instrument is not fulfilling its purpose. Potentially, the capability of the water treatment instrument was not entirely covered through the full spectrum, and the water treatment instrument might prove its capabilities in other areas. Therefore, the final evaluation should not lead to the ultimate conclusion whether a water treatment instrument has any value or not. This value possibly needs to be determined on a case by case basis individually. Nevertheless, this study can present conclusive evidence, that assists the end customer by making the capabilities of water treatment instruments transparent. This study should serve as a guide for the end customers in deciding which treatment instrument best meet their needs. Often times this decision requires an individual consultation. Within the framework of these possibilities, this study also serves as a guideline, which allows the respective producers to compare their products amongst each other. Aim of such tests is to improve the overall water quality and provide producers with the feedback needed to continue working on their quality standards and raise them.

The qualitative factors were developed from the crystal analysis and compared to the following chemical parameters leading to an overall assessment: oxygen measurement, pH-measurement, conductometry in mS/cm, dry residue in mg/liter, nitrate content in mg/liter, and the redox potential in mV, as well as all parameters of the German Trinkwasserverordnung (TVO – German Drinking Water Ordinance). The weight of the two main factors, crystal analysis and chemical parameters, is equitable 1:1. With the crystal analysis, purely qualitative aspects are considered, while the chemical parameters are measurable quantitative values. Within the crystal analysis, the evaluation is based on the following five parameters: formation, shape, dispersion, intensity of the crystals, and angle structures, all with equal weight. All parameters are evaluated jointly and the rating is following the point system. The respective five parameters of the two main factors receive a value between -3 and +3 points, which result in a range of the potentially lowest cumulative value of -30 points and the potentially highest cumulative value of +30 points. The grading is done based on the cumulative points, with the highest grade of 1 and the lowest grade of 6.

Crystal analysis:

The examined instrument belongs to the category of energetic water preparation instruments. The active substances are mainly semi-precious stones. The sensory examination was no cause for complaint. The sample was odorless, clear, neutral in taste, and without any distinctive features. After the treatment, a distinctive change in crystal structure took place when compared to the base sample.

While the crystals of the base sample were very compressed, the treated ones show a high surface formation and better dispersion over the whole image. The neutral sample displayed many 90 degree angle structures, which is not the case in the treated sample. This means, that the harmful substances were neutralized. Increasingly, 60 degree angle structures with plant-like shapes are displayed. This means that a good approximation to spring water quality has taken place. The surface formation of the crystals increased in comparison to the base sample, which suggests an increase in bioavailability of the minerals in the sample. The treated sample is better suited as a food product which supplies trace elements and minerals than the neutral sample. At the same time, the level of vital powers increased noticeably. The energy balance is higher than that of the neutral sample and overall needs to be evaluated positively. The sample shows a very distinguished energy surplus. The human metabolism is stimulated and supported through the high bioavailability of the trace elements and the energy surplus. Insofar, the biological valance of this sample is regarded as premium. Hardly any compacted zones, which would indicate a sedimentation tendency of calcium carbonate or other minerals, as displayed in the neutral sample, can be seen. The technical water quality was improved. Crosswise, compressed angle structures are hardly appearing at all, which leads to the assumption that solubility of minerals in the water was increased distinctly. Larger crystals potentially precipitate and afflict pipes. The smaller crystals appearing in the treated sample have a higher surface formation and are less prone to precipitate. This means, that technical instruments can be operated well using water of this quality. The technical water quality was raised and the danger of calcification reduced. This results in an advantage for the producer in regard to the maintenance and life expectancy of the utilized technical instruments.

Overall, a distinct effectiveness of the water treatment instruments of the company VitaJuwel is shown, which resulted in the noticeable improvement of the tap water quality of the city of Überlingen.

Further details are described in conjunction with the images below.

Chemical parameters:

Evaluation	Oxygen content in mg/l	pH-measurement	Conductometry $\mu\text{S}/\text{cm}$	Dry residue mg/liter	Redox potential in mV	nitrate content in mg/liter
Sample / Location of Sampling	Value / from +3 to -3 points	Value / from +3 to -3 points	Value / from +3 to -3 points	Value / from +3 to -3 points	Value / from +3 to -3 points	Value / from +3 to -3 points
Neutral sample Überlingen	9.9	7.84	354	116	110	4.6
Company VitaJuwel	10.04	8.02	329	116	112	4.6
Difference	+0.14	+0.18	-25	0	+3	0

Commentary - chemical parameters:

The oxygen content could be raised slightly, compared to the neutral sample.

The pH-value shifted a little towards basicity in comparison to the neutral sample.

The conductometry improved, compared to the neutral sample.

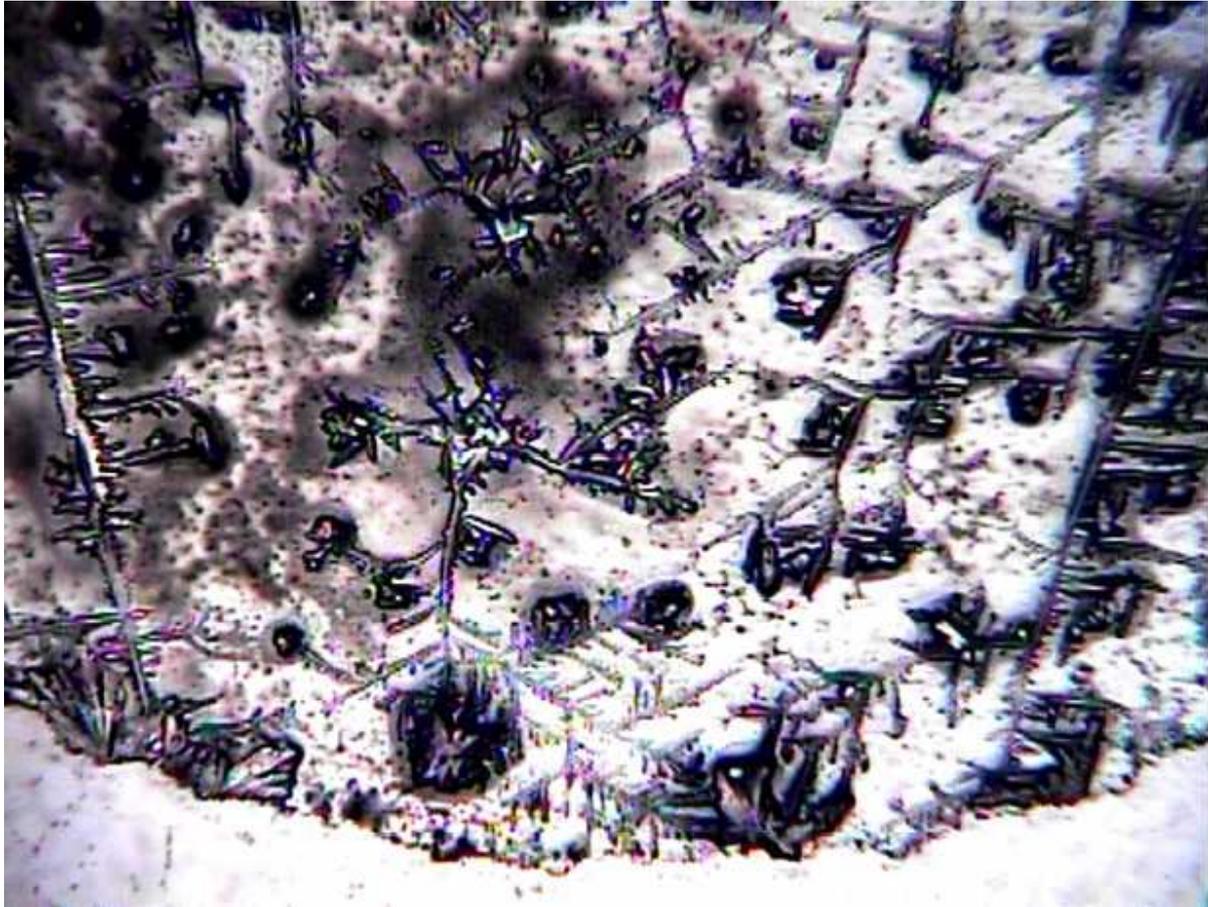
The dry residue did not change, compared to the neutral sample.

The redoxpotential hardly changed within the tolerance, compared to the neutral sample.

The increase in oxygen content and the reduction of conductor indicate a qualitative improvement compared to the neutral sample, which leads to a better chemical evaluation of the tests in comparison to the neutral sample.

1. Full-scale Display 40 – fold enlargement

Sample: VitaJuwel GmbH, water sample: VitaJuwel



In the full-scale display, very regular crystal structures are displayed. A strong approximation to the 60 degree angle, as is only found in high quality spring water, is clearly displayed. 90 degree angle structures are hardly appearing in this crystallization, so it can be assumed that the harmful substances, which were present in the neutral sample, could be neutralized to a large extent. The energy level of this sample was distinctly raised. A clearly positive energy balance can be assumed. If enjoying water samples after treatment with the instruments of the company VitaJuwel, the consumer will experience more vitalized and stimulated metabolism.

2. Half-scale Display 100 –fold enlargement

Sample: VitaJuwel GmbH, water sample: VitaJuwel

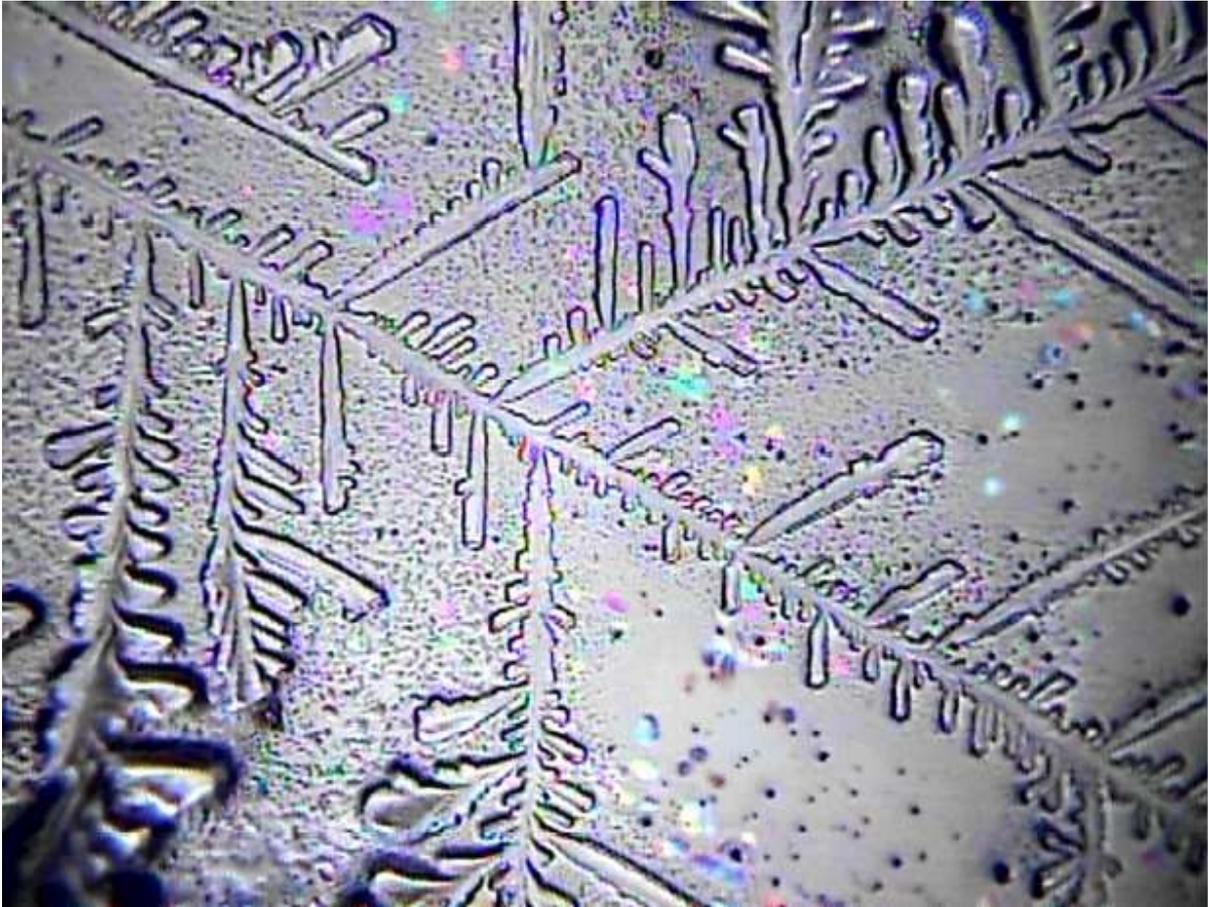


In the half-scale display, plant-like crystal structures, which were not found as such in the neutral sample at all, are displayed. Increasingly, 60 degree angle structures are appearing, which dominate the whole picture. This is a clear indication for the strong quality improvement through the water treatment instrument, because such structures only appear in very high quality water of natural origin. Insofar, a renaturation of the tap water took place.

No indication of 90 degree angle structures are shown, which would portray pollutants or harmful substances. To the contrary, it can be determined, that the bioavailability and the biological quality is definitely increased. The water preparation instrument of the company VitaJuwel not only is able to neutralize negative effects, but is also able to restructure water so it obtains essentially natural, positive characteristics.

3. Large-scale Display 400 – fold enlargement

Sample: VitaJuwel GmbH, water sample: VitaJuwel

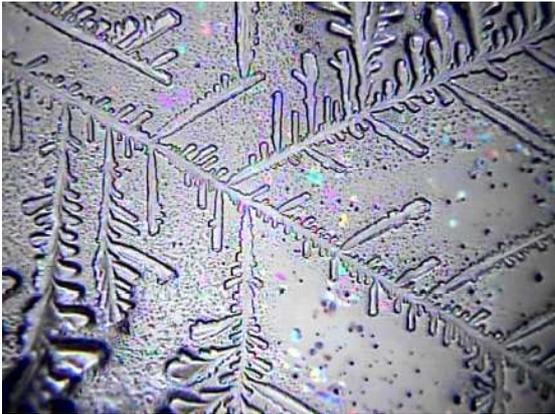


The large-scale display shows a very well formed branch-like crystal complex, that exhibits further fine branching plant-like structures, which were not present in the neutral sample. A strong approximation to a 60 degree angle formation is a sign of the vitalizing effect onto the water, which also results in a clear convergence of the water sample towards natural spring water. This demonstrates that the water treatment instrument of the company VitaJuwel caused a definite increase in quality of the water sample. Accordingly, the energy balance is respectively more positive than the one of the neutral sample, which is reflected accordingly in the end results.

Summary of Findings:

Sample: VitaJuwel GmbH, Water sample: VitaJuwel

Comparison with neutral sample:



Sample: VitaJuwel, 400-fold enlarged



Sample: Neutral sample Überlingen,
400-fold enlarged

The treatment with the instrument of the company VitaJuwel resulted in very clear quality improvements in both biological as well as technical regard. For this reason, the sample is reaching a quality level otherwise only found in natural spring water. Compared to the neutral sample or to other comparable tap waters a significant quality increase was measured. We evaluate the sample with the grade of 1.9 and the evaluation of good to excellent (with the highest grade of 1 and the lowest grade of 6). When using the water treatment instrument, a very distinct advantage is demonstrated for the consumer.

In order to elaborate on the medical effects and to conclude more specifically, further studies in context with blood crystal analyses must be made, which is beyond the scope of this study.

Überlingen, 03 May 2008

/signed/ Andreas Schulz
(Chief Researcher)