



COMBI 5000

pH + EC + AM + VWC + rH + hPa + °C



Instruction manual

STEP Systems GmbH * Duisburger Str. 44 * D-90451 Nürnberg
Tel: +49 911 9626050* www.stepsystems.de * info@stepsystems.de

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1. General information

The contents of this manual were carefully verified and have been compiled to the best of our knowledge. However, the Manufacturer does not accept liability for possibly contained statements in this manual.

In no event will the manufacturer be liable for direct, indirect, special, incidental or consequential damages resulting from any defect or omission in this manual.

The manufacturer reserves the right to make changes in this manual and the products it describes at any time, without notice or obligation. Revised editions can be found on the manufacturer's website.

2. Safety information

Please read the entire manual before unpacking, setting up or operating this equipment. Pay attention to all danger and caution statements. Failure to do so could result in serious injury to the operator or damage to the equipment.

Make sure that the protection provided by this equipment is not impaired. Do not use or install this equipment in any manner other than that specified in this manual.

 DANGER	Indicates a potentially or imminently hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	Indicates a potentially or imminently hazardous situation which, if not avoided, could result in death or serious injury.
 ATTENTION	Indicates a potentially hazardous situation that may result in minor or moderate injury.
 !	Indicates a hazardous situation that may damage the unit if not avoided. Information that must be given special attention.
	Electrical equipment marked with this symbol may not be disposed of public disposal systems. Electrical equipment users must return old or end-of-life equipment to the Manufacturer for disposal at no charge to the user.
 !	This symbol, if noted on the instrument, references the instruction manual for operation and/or safety information.

3. Product overview

The COMBI 5000 is a multifunctional instrument for 8 measuring parameters:

pH – EC – AM – VWC – rH – p – T – FlowControl

Your probes are automatically recognised and the corresponding measuring procedure is called up. The unit is powered by a 9V battery. Operation is menu-driven.

3.1. Setup



3.2 Starting

Battery holder	Remove the grey battery compartment cover by pressing down the ribbed tab and then pulling the cover down.
Battery	Place the provided 9V battery into the battery holder inside the battery compartment in the rear bottom part of the unit. Pay attention to the correct polarity.
Power supply unit	Instead of the battery, a power supply unit with 7 ...20 Vdc can also be connected, the cable of which is provided with a 9V clip connection. It is especially recommended for the function module FlowControl, as the unit must not switch off independently due to its monitoring function. More information on the relay output of the FlowControl, see chapter 6.4.
DataLogger	If the unit is equipped with the DataLogger function module, the battery / power supply unit supplies a built in clock (chapter 7.), which continues to operate even when the unit is switched off.
Changeover time	It can take up to 7 minutes to change the battery before the clock settings are lost and have to be carried out again.
Battery compartment	Replace the cover and slide it up until it clicks into place.
Switch On / Off	The unit is switched on and off by pressing ON / OFF. An automatic switch-off always takes place after 240 s. The FlowControl function module is always in continuous operation.
ON / OFF	The key can be pressed as long as required to read the start display or to dry the humidity sensor in the HPT probe (if connected).

3.3. Keypad

ON / OFF	Switching the measuring unit on or off at any time. Display shows the start screen as shown in chapter 3.4. It remains visible as long as the button is pressed.
MODE (-)	Sequential listing of various selection, setting and calibration functions. Counting down of setting values. Restart of the unit after completion of the selection, setting and calibration functions.
SELECT (+)	Acceptance of the functions / selection listed in MODE. Counting up of setting values. Switching between the pH and EC - AM - VWC - rH - p - T measuring processes, depending on the function module.
OK	Confirmation of languages, settings, functions. Manual storage of the measured values shown in the display, if the DATALOGGER function module is installed. Acceptance / cancellation of the MODE function with restart of the unit. Measurement release after exceeding the limit value in the operating mode (with FlowControl).

3.4. Function modules

Depending on the order, the COMBI 5000 is factory-equipped with one of the function modules listed below and delivered in a complete case including accessories. Retrofitting to other function modules is not possible. However, individual components of the respective configuration can be delivered later.

Function modules COMBI 5000	Complete case Designation	Complete case Article number
pH-EC-AM-VWC-rH-P-T	COMBI 5000	10920
AM-T	AM 5000	10190
EC-T	EC 5000	10290
pH-T	pH 5000	10390
VWC-T	MST 5000	10850
EC-AM-T	EC + AM 5000	10490
pH-AM-T	pH + AM 5000	10590
pH-EC-T	pH + EC 5000	10690
pH-EC-AM-T	pH + EC + AM 5000	10790
AM-VWC-T	AM + VWC 5000	10890
pH-AM-VWC-T	pH + AM + VWC 5000	10895
pH-T-FlowControl	pH-FlowControl 5000	52020A
EC-T-FlowControl	EC-FlowControl 5000	52015A
pH-EC-T-FlowControl	PH-EC-FlowControl 5000	52030A
DataLogger	optional	10140

3.5. Display examples

The following examples show typical measured value displays, depending on the installed function module. The status line at the top of the display shows the battery reserve, remaining time or current time, temperature.

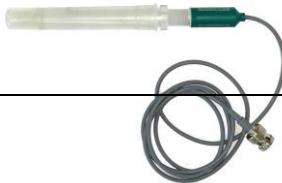
An installed DataLogger is indicated by the current time (e.g. 14:56). Without DataLogger, the display shows the remaining runtime in seconds (e.g. 155) until automatic switch-off after max. 240 s.

85% Bat 14:56 +23.7 °C	DataLogger installed
0035 DATASETS MANU mS/cm	35 Datasets, DataLogger MANUAL Measured value unit: mS/cm
1 . 413	Measured value: EC
85% Bat 155 ----- °C	DataLogger not installed
g/l	Measured value unit: g/l
0 . 75	Measured value: AM
63% Bat 14:56 ----- °C	DataLogger installed
2618 DATASETS MANU pH	2618 Datasets, DataLogger MANUAL Measured value unit: pH
10 . 72	Measured value: pH

85% Bat 155 +19.4 °C	DataLogger not installed
0.75 g/l 23.6 %vwc	Measured value: AM Measured value: %VWC
63% Bat 14:56 +21.5 °C 0178 DATASETS AUTO %VWC 32.4	DataLogger installed 178 Datasets, DataLogger AUTOMATIC Measured value unit: %VWC Measured value: %VWC
85% Bat 174 +26.7 °C 5.37 pH 749 ppm 1.413 mS/cm	DataLogger not installed Meas. value: pH exceeded Measured value: TDS Measured value: EC
85% Bat 19:47 +16.9 °C 0258 DATASETS AUTO Humidity 26.7 % Dew point 2.3 °C Altitude 308 m Pressure 1037.6 hPa	DataLogger installed 258 Datasets, DataLogger AUTOMATIC Measured value: Humidity rH% Measured value: Dew point °C Measured value: Altitude m Measured value: Air pressure hPa

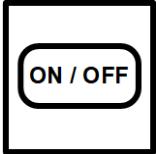
4. Measurement

4.1. pH probe



	pH = pH value [pH] T = Temperature [°C] (optional)
	Connect the probe to the BNC socket. If the function modules EC, AM, VWC, T are also installed, their probes can be connected to the 8-pin socket at the same time. By briefly pressing the SELECT key, you can switch back and forth between pH and EC, AM, VWC, T measurement.
	Remove the protective cap from the probe. Insert the probe into the soil sample (use a piercer if necessary) or dip it into the solution and swirl it slightly. If the unit has been calibrated together with a T probe, then also use this when measuring and place it close to the pH probe.
	The measured value is stable after approx. 10 seconds and can be read / saved. Measured values outside the measuring range are displayed with "----". The pH value is not temperature-compensated. With a temperature probe connected, a pH value compensated to 25°C is shown next to the temperature.
	After use, clean the probe with a cloth and put on the protective cap. It is essential that the protective cap is filled with tap water or KCL solution to prevent the membrane in the probe tip from drying out.

4.2. EC probe

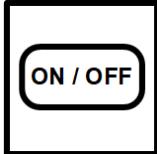
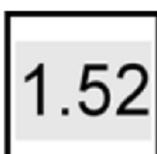
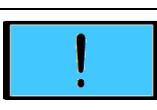
	<p>EC = Electric Conductivity [mS/cm] T = Temperature [°C]</p> 
	<p>Connect the probe to the 8-pin socket. If the pH function module is also installed, its probe can be connected to the BNC socket at the same time. Press the SELECT key briefly to switch between EC and pH measurement.</p>
	<p>Immerse the probe in the solution, moving it slightly.</p>
	<p>The measured value is updated once per second. It is stable after 2 seconds and can be read / saved. Measured values higher than 200 mS/cm are displayed with "----".</p>
	<p>Clean the probe with a dry cloth, rinse in distilled water and blow out with air if necessary. Further measurements can be taken immediately.</p>

4.3. AM probe

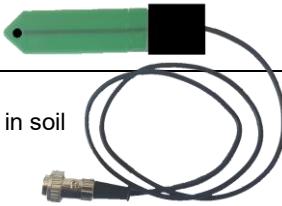


	Measuring of active salts AM = Salinity [g/l]
	Connect the probe to the 8-pin socket. If the pH function module is also installed, its probe can be connected to the BNC socket at the same time. Press the SELECT key briefly to switch between AM and pH measurement.
	Insert the probe at least 50 mm deep into the soil.
	The measured value is updated once per second. It is stable after 2 seconds and can be read / saved. Measured values higher than 2.99 are displayed as 2.99 g/l.
	Clean the probe with a cloth after use.

4.4. HPT probe

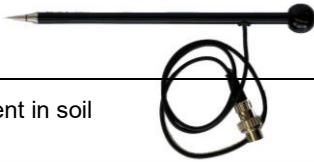
	<p>rH = Relative air humidity [%] P = Air pressure [hPa] T = Air temperature [°C]</p> 
	<p>Connect the probe to the 8-pin socket.</p> <p>To set the terrain height in metres above sea level, select MODE >> SET ALTITUDE and follow the instructions on the display. The current altitude can be taken from the GPS app of a mobile phone, for example.</p>
	<p>Hold the probe in the air and sway it slightly if there is not enough natural air movement.</p>
	<p>The measured values are updated once per second. They are stable after 2 seconds and can be read / saved.</p> <p>rH measuring range: 10 ... 100 % p measuring range: 260 ... 1260 hPa T measuring range: -20 ... +80 °C</p>
	<p>Clean the probe with a cloth after use, clean with air if necessary.</p> <p>The probe is calibrated at the factory.</p>
	<p>Never expose the probe to dust or water to avoid damaging it and to obtain the most accurate readings.</p>

4.5. VWC probe



	VWC = Volumetric water content in soil [%VWC] T = Temperature [°C]
	Connect the probe to the 8-pin socket. If the pH function module is also installed, its probe can be connected to the BNC socket at the same time. Press the SELECT key briefly to switch between VWC and pH measurement.
	Pierce the probe into the soil up to the lower edge of the housing or bury it completely with the housing. If necessary, use a piercer. Make sure that the soil is well sealed!
	The measured values are updated once per second. They are stable after 5 seconds and can be read / saved. VWC measuring range: 0 ... 51 % (in water) T measuring range: -20 ... +60 °C
	Clean the probe with a cloth after use. The probe is calibrated at the factory. To check, dip the probe into the centre of a 1 litre measuring cup filled with tap water. After 5 s the display should show a value between 47 51 %VWC.
	Never pull the probe out of the soil by the cable!

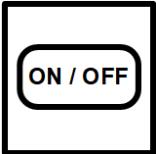
4.6. Multi – probe



	VWC = Volumetric water content in soil [%VWC] AM = Salinity [g/l] T = Temperature [°C]
	Connect the probe to the 8-pin socket. If the pH function module is also installed, its probe can be connected to the BNC socket at the same time. Press the SELECT key briefly to switch between VWC / AM and pH measurement.
	Pierce the probe at least 70 mm deep into the soil without tilting it and do not move it any more. If necessary, use a slightly thinner piercer. Make sure that the soil is well sealed.
	The measured values are updated once per second. They are stable after 10 seconds and can be read / saved. VWC measuring range: 0 ... 51 % (in water) AM measuring range: 0 ... 2.99 g/l T measuring range: -20 ... +60 °C.
	Clean the probe with a cloth after use. The probe is calibrated at the factory. To check, dip the probe into the centre of a 1 litre measuring cup filled with tap water. After 10 s the display should show a value between 47 51% VWC.
	Never pull the probe out of the soil by the cable!

4.7. Temperature probe



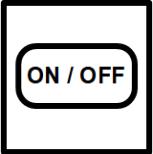
 An icon showing a rectangular button with the text "ON / OFF" inside it.	T = Temperature [°C]
 An icon showing a probe with a cable being inserted into an 8-pin socket.	Connect the probe to the 8-pin socket. If the pH function module is also installed, its probe can be connected to the BNC socket at the same time. The display shows then a pH value compensated to 25°C.
 An icon showing a plant in a pot with a probe inserted into the soil.	Insert the probe at least 50 mm deep into the soil or hold it in the solution or in air.
 An icon showing a digital display screen displaying the number "1.52".	The measured value is updated once per second. It is stable after 5 seconds and can be read / saved. The measuring range is -20 ... +80 °C. Measured values higher than 80°C are displayed with "----°C".
 An icon showing a probe being cleaned with a cloth.	Clean the probe with a cloth after use.

5. Calibration

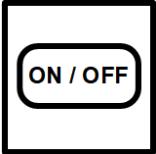
5.1. pH probe

	Calibration of the unit is necessary after replacing the pH probe or generally after frequent use (at least after 20 measurements). It can be carried out as often as desired.
	Connect the probe to the BNC socket and remove the protective cap. For calibration, connect only the pH (T) probe to the unit. 2-point calibration in buffer solutions pH7 → pH4 . 3-point calibration in buffer solutions pH7 → pH4 → pH10 .
	Immerse the probe and, if necessary, the T-probe in the buffer solution and then wait for min. 5 s. Move the probe slightly. Select MODE > CALIBRATION and follow the instructions on the display. The calibration process is displayed as a progress bar. Then the COMBI 5000 restarts. An incorrect buffer solution, defective probe or other faults are shown in the display as an error message. After eliminating the error, repeat the calibration.
	After use, clean the probe with a cloth and put on the protective cap. It is essential that the protective cap is filled with tap water or KCL solution to prevent the membrane in the probe tip from drying out.
Note	The slope of the pH electrode [mV/pH] and the current sensor voltage [mV] can be called up any time under MODE>pH-SENSOR STATUS .

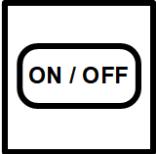
5.2. EC probe

	Calibration of the unit is necessary after replacing the EC probe or generally after frequent use. It can be carried out as often as desired.
	Connect the probe to the 8-pin socket. Calibration can be performed with the following solutions: 0.084 – 1.41 – 5.00 – 12.88 – 111.8 mS/cm. The solutions are recognised automatically. The calibration sequence is arbitrary.
	Immerse the probe in the calibration solution and wait for at least 10 seconds. Move the probe slightly. Select MODE >> CALIBRATION and follow the instructions on the display. The calibration process is displayed as a progress bar. Then the COMBI 5000 restarts. An incorrect calibration solution, defective probe or other faults are shown in the display as an error message. After eliminating the error, repeat the calibration.
	Rinse the probe in distilled water, dry it with a cloth and blow it out with air if necessary. Further measurements can be taken immediately.

5.3. AM probe

	Calibration of the unit is necessary after replacing the AM probe or generally after frequent use. It can be carried out as often as desired.
	Connect the probe to the 8-pin socket. Calibrate in the standard solution 1.41 mS/cm . This corresponds to a salinity of AM = 0.75 g/l . It is automatically detected during calibration.
	Immerse the probe vertically in the calibration solution. The tip should touch the bottom of the container in the middle. Select MODE >> CALIBRATION and follow the instructions on the display. The calibration process is displayed as a progress bar. Then the COMBI 5000 restarts. An incorrect calibration solution, defective probe or other faults are shown in the display as an error message. After eliminating the error, repeat the calibration.
	Clean the probe with a dry cloth. Further measurements can be taken immediately.

5.4. Multi-probe

	Calibration of the unit is necessary after replacing the multi-probe or generally after frequent use. It can be carried out as often as desired.
	Connect the probe to the 8-pin socket. VWC calibration is done in air (0%) and water (50%). The AM calibration is done in the calibration solution 1.41 mS/cm . This corresponds to a salinity of AM = 0.75 g/l . The calibration media are recognised automatically.
	Clean and dry the probe. Select MODE >> CALIBRATION and follow the instructions on the display. In doing so, hold the probe in air as well as in water for 10 s each before starting with OK and wait to record the temperature correctly. The calibration process is displayed as a progress bar. Then the COMBI 5000 restarts. The AM calibration is optional. Immerse the probe vertically in the calibration solution. The tip should touch the bottom of the container in the middle. An incorrect calibration solution, defective probe or other faults are shown in the display as an error message. After eliminating the error, repeat the calibration.
	Clean the probe with a dry cloth. Further measurements can be taken immediately.

6. FlowControl 5000

6.1. Functions

Measurement	Simultaneous continuous measurement and display of pH - EC - TDS - T - values, depending on the function module.
Calculation	Adjustable TDS factor from 0 ... 1.00 (default value = 0.53) for automatic calculation of the TDS value according to the formula: TDS [ppm] = EC [mS/cm] * 1000 * TDS FACTOR.
Indication	Inverse display of the measured value when exceeding or falling below the adjustable pH limit values from 0 ... 14 pH and EC limit values from 0 ... 200 mS/cm.
Storage	Storage of the exceeded/undershot limits in the data logger, if it is installed.
Monitoring	Simultaneous monitoring of adjustable pH and EC limits.
Alarm	Adjustable alarm delay time from 0...255 s. If the set pH or EC limit values are exceeded or undershot, the respective measured value is shown inverted in the display after a delay time has elapsed.
Switching	If the set pH or EC limit values are exceeded or undershot, the respective pH or EC relay is switched after a delay time has elapsed. This function requires the installation of a relay card and a jack socket for connection to the potential-free relay contacts.
Mounting	The probes are tightly screwed into the pipe installation kit.
	The FlowControl 5000 does not switch itself off. It is therefore strongly recommended to use a 9V power supply

(max 20Vdc, 200 mA) for continuous operation.

6.2. Settings

pH limits	Select MODE >> pH LIMIT VALUE and follow the instructions on the display.
EC limits	Select MODE >> EC SCHWELLENWERT and follow the instructions on the display.
Alarm delay	Select MODE >> ALARM DELAY and follow the instructions on the display.
TDS-Factor	Select MODE >> TDS-FACTOR and follow the instructions on the display. The TDS factor can be set between 0.00 ... 1.00 TDS [ppm] = EC [mS/cm] TDS factor (default = 0.53)
Other	As described in chapter x.x: Contrast, Language, DataLogger.
Reaction to exceeding or falling below the limit value	If the measured value exceeds or falls below the limit values <ul style="list-style-type: none">- the respective measured value is displayed inversely- the alarm delay starts counting down- after expiry, the measured value is "frozen" in the display- an (optional) relay output is switched (chapter 6.4.)- the limit value is stored in the DataLogger (chapter 7.)
	If the measured value returns prematurely to the range between the upper and lower limit values, the measured value is <ul style="list-style-type: none">- the measured value is displayed normally again- the delay time is reset to the initial value
	After eliminating the fault with the OK button <ul style="list-style-type: none">- the measured value concerned is displayed normally again- the alarm delay is set to the initial value again- the (optional) relay output is switched off

6.3. Measure - Monitor - Clean - Calibrate

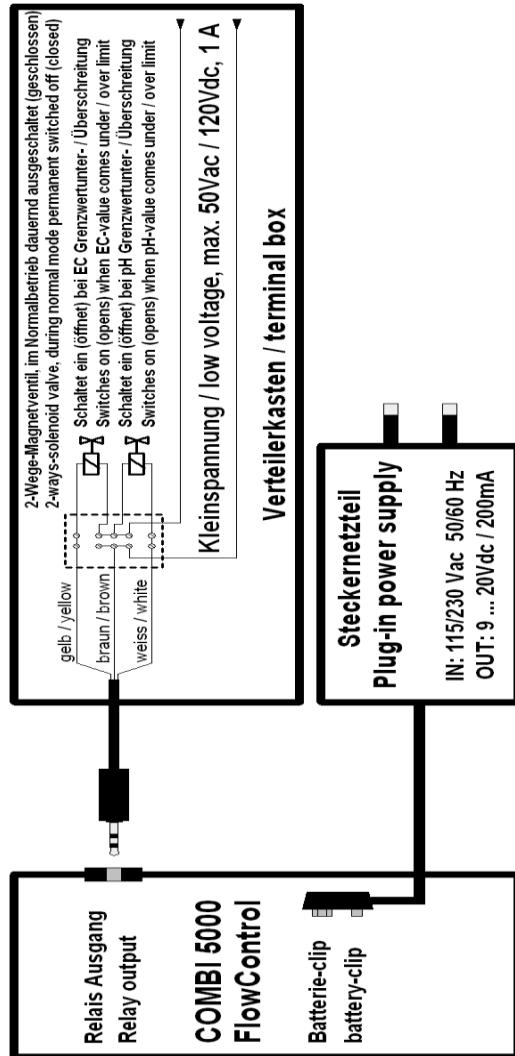
	pH = pH value [pH] EC = Electric Conductivity [mS/cm] TDS = Total Dissolved Solids [ppm] T = Temperature [°C]	
	Connect the pH probe to the BNC socket. Connect the EC probe to the 8-pin socket.	
	Install the completely assembled pipe installation kit in the pipe of the liquid to be measured. Insert the probes into the respective pipe installation kit and fix and seal them with the PG screw connection.	
	After the settings (chapter 6.1.) and / or wiring (chapter 6.4.) have been made, the measurement results can be permanently read on the unit. The reaction to measured values outside the adjustable limit values is described in chapter 6.2.	
	Cleaning - Calibration If the measured values are not plausible or after 6 weeks at the latest, remove the pH probe, clean it and recalibrate it according to chapter 5.1. If the measured values are not plausible or after 3 months at the latest, remove the EC probe, clean it and recalibrate it according to chapter 5.2.	

6.4. Circuit example with relay outputs



WARNING

Use low voltage: max. 50 Vac / 120 Vdc



6.5. FlowControl function modules

	<p>pH – EC – FlowControl with connected pH and EC probe, each installed in its own pipe installation kit (bypass). Because of the monitoring operation, the unit must not switch off independently due to insufficient battery reserve. Therefore, the use of a plug-in power supply unit (9 ... 20Vdc, 200mA) is recommended for the power supply, which is connected instead of the 9V battery in the battery compartment.</p>
	<p>pH – FlowControl with connected pH probe, installed in a pipe installation kit (bypass). Because of the monitoring operation, the unit must not switch off independently due to insufficient battery reserve. Therefore, the use of a plug-in power supply unit (9 ... 20Vdc, 200mA) is recommended for the power supply, which is connected instead of the 9V battery in the battery compartment.</p>
	<p>EC – FlowControl with connected EC probe, installed in a pipe installation kit (bypass). Because of the monitoring operation, the unit must not switch off independently due to insufficient battery reserve. Therefore, the use of a plug-in power supply unit (9 ... 20Vdc, 200mA) is recommended for the power supply, which is connected instead of the 9V battery in the battery compartment.</p>

7. DataLogger

This function module can be installed at the factory in addition to all other function modules. The time (e.g. **13:25**) is then always shown in the middle of the status line of the display (chapter 3.5.).

7.1. Functions

Quartz clock	Clock in 24h format with year, month, day, hour, minute, (incl. leap years). Approx. 7 min power reserve when battery is changed.
Datasets storage	Storage of max. 2620 datasets (with date, time, temperature, measured value, measured value type). Manual or automatic data storage can be preselected. Manual data storage of all displayed measured values at any time by pressing OK. Automatic data storage after an adjustable measuring interval of 1 min.... 24 h. The unit switches on automatically before the measurement, saves the measurement result and switches off again after 15 seconds.
Datasets export	The stored data is transferred in CSV format via a data cable (chapter 9.10.) to the USB port of a PC. Connection of the cable to the unit is automatically recognised.
Datasets deletion	Manual deletion of the data stored in the DataLogger after a security query.
Datasets storage example	A maximum of 2620 records can be stored. Dataset - Format: Memo;Year;Month;Day;Hour;Minute;Temp;Value;Type

7.2 Settings

Quarz clock	Select MODE >> DATE / TIME and follow the instructions. Set the flashing display values in sequence with the +/- keys or switch off the unit. Confirm each setting with the OK. After setting the minutes, the time is accepted and shown in the status line of the display (chapter 3.5.).
DataLogger MANU	Select MODE >> DATALOGGER MANU-AUTO and then MANU with the +/- key. The unit then restarts with this setting. In MANU operating mode, a measured value is saved by pressing the OK button. OK appears briefly in the display. The 3rd line of the display shows the measured values saved so far and the MANU operating mode.
DataLogger AUTO	Select MODE >> DATALOGGER MANU-AUTO and then AUTO with the +/- key. In the following DATALOGGER CYCLE menu, use the +/- keys to set the desired measuring interval from 1 min.... 24 h and confirm with OK or switch off the unit. The unit then restarts. In AUTO mode, the unit switches on automatically, saves the measurement result and switches off again automatically after 15 seconds. The unit can be switched on at any time to also save intermediate values with the OK or to view the current measured value. The 3rd line of the display shows the measured values saved so far and the AUTO operating mode.
Switch Auto > Manu	To switch from AUTO to MANU mode, switch on the unit. select MODE >> DATALOGGER MANU-AUTO and then MANU . All functions are then available again.

7.3. Hardware

Data cable	<p>Connect the 8-pin plug of the supplied data cable to the unit. It automatically recognises the cable and shows DATALOGGER EXPORT on the display.</p> <p>Connect the USB plug (with integrated electronics) of the data cable to the PC.</p> <p>When the unit is connected for the first time, the PC reports the installation of driver software, as with other new USB devices. A USB serial port is then automatically set up as a COM interface whose number (e.g. COM4) can be queried via the Windows device manager and set in the communication software.</p>
Driver software	<p>If the driver software does not install automatically, it must be installed manually (ask your software service provider if necessary):</p> <p>Download from the Internet the file v2.12.28 WHQL Certified</p> <p>Help for Windows 10 under Application Note AN_396</p> <p>Help for Windows 8 under Application Note AN_234</p> <p>Help for Windows 7 under Application Note AN_119</p>

7.4. Software

Programme	<p>A programme is necessary to receive the data via the USB serial port, e.g. Termite 3.4 from CompuPhase (freeware).</p> <p>The data is saved on the PC as a text file in CSV format after assigning any file name. The file name and storage location are set beforehand in the programme.</p>
Interface	<p>The following parameters must be set in the programme:</p> <p>COMx – 19200 bps – 8 Datenbits – 1 Stoppbit – Even Parity</p> <p>The programme then waits for data from the unit.</p>

7.5. Data export

Start	<p>Start the programme installed on the PC. Press OK to start the data export. During the export, the display shows "please wait ..." depending on the amount of data.</p> <p>This process can be repeated as often as desired, as the exported data is not automatically deleted from the unit.</p>
Datasets indication	<p>The imported data sets are automatically displayed by the programme in its window and exported to the PC with a predefined file name.</p> <p>A semicolon (;) is used as a separator in the data records. This automatically creates the table columns and entries during the subsequent import into Excel or OpenOffice.</p>
Datasets lines	<p>1. Memo;Year;Month;Day;Hour;Minute;Temp;Value;Type 2. ;2020;06;15;14;40;+22.6; 7.34;pH 3. ;2020;06;17;15;53;+24.1; 12.88;EC 4. ;2020;06;21;16;09;+21.4; 12.6;VW 5. ;2020;06;15;16;12;+21.4; 0.75;AM 6. ;2020;07;23;09;33;+23.6; 0.75;rH 7. ;2020;07;23;09;33;+23.6; 1023.7;p</p>
Dataset process	<p>Open the created text file with Excel or OpenOffice as a CSV file. In the opened text import window, the most important settings for a correct data import are made, e.g.:</p> <p>Character set: System</p> <p>Language: Standard</p> <p>Separation options: Semicolon</p> <p>Column type: Standard or US - English</p> <p>The CSV file is then read into Excel or OpenOffice. The resulting table can then be further processed according to your own ideas and saved as an XLS file, for example.</p>
Datasets deletion	<p>Select MODE >> DATALOGGER CLEAR and follow the further instructions. The number of datasets saved so far is displayed and deleted when confirmed with yes.</p> <p>The unit restarts with 0000 datasets and all previous settings.</p>

8. Accessories and spare parts

Item no.	Component parts
10910	COMBI 5000, basic unit
10302	pH insertion probe
31001	Buffer solution pH 4, 100 ml
31002	Buffer solution pH 7, 100 ml
10212	EC probe with platinum sensors for EC and t°C measurement
31003	Standard solution 1.4 mS, 50 ml
31005	Standard solution 111.8 mS, 50 ml
10192	Multi-probe for activity, soil moisture and temperature measurement
10130	HPT probe for measuring air humidity, air pressure, air temperature
10124	Temperature probe
40821	VWC probe for measuring soil moisture and temperature
10121	Stainless steel AM probe, 250 mm

10122	Stainless steel AM probe, 500 mm
10123	Stainless steel AM probe, 750 mm
10140	Data logger function
52020A	pH – T – FlowControl for pH and t°C monitoring
52020R	pH – T – FlowControl for pH and t°C monitoring, with built-in relay card, connection socket and connection cable
52015A	EC – T – FlowControl for EC, TDS and t°C monitoring
52015R	EC – T – FlowControl for EC and t°C monitoring, with built-in relay card, connection socket and connection cable
52030A	pH – EC – T – FlowControl for pH, EC, TDS and t°C monitoring
52030R	pH – EC – T – FlowControl for pH, EC, TDS and t°C monitoring, with built-in relay card, connection socket and connection cable
90079	Connection cable 8-pin to USB
23041	Spray bottle with snorkel, 250 ml
90036	Volume measuring cup, 100 ml
90020	Piercing pin

9. Technical data

9.1. COMBI 5000 basic unit

Type	hand-held unit for measuring pH, EC, AM, VWC%, rH, p, °C or FlowControl
Data recording (depending on equipment)	data logger for manual / automatic storage of up to 2620 records. Storage of up to 2620 data sets. With clock, data logger cycle 1 min ... 24 h, data export in CSV format
Housing / Material	splash-proof according to IP40, EN60529 / ABS
Dimensions / Weight	83 x 180 x 55 mm (W x H x D) / 0.3 kg
Operating t°C	-10 ... +60 °C
Display	graphic display 128x64 pixels, 54 x 32 mm, reflective, contrast adjustable
Connectors	8-pin DIN socket (EC, AM, VWC, p, rH, T), BNC socket (pH), 2.5mm jack socket max. 50 Vac / 120 Vdc, 1 A (FlowControl)
Peripheral interfaces	analogue, digital, RS485 bus, I²C bus, 5 Vdc 2 change-over relay outputs, (FlowControl)
Operating voltage	9V block battery (approx. 8 operating hours) or mains adapter (9 ... 20Vdc, 200mA)
Power consumption	max. 18mA, max. 45mA for function module FlowControl with relay
Duty cycle	240 s with automatic switch-off, continuous operation with FlowControl
Battery monitoring	notification and automatic switch-off at battery reserve < 3%

Measuring cycle	1 s for all measuring methods
Switching the measuring methods	automatically, depending on the connected probe. pH probe can always remain connected.
Operation	with 4 keys: ON/OFF, MODE, SELECT, OK
Languages	German, English, Russian
Warranty	2 years. Please contact us before return the unit.

9.2. pH probe

Type	insertion probe with gel electrode and protective cap
Item no.	10302
Dimensions	glass body, transparent, 12 mm Ø, length 163 mm
Connector	BNC socket
Cable	130 cm, coaxial, shielded, Teflon-insulated
Storage t°C	-20 ... +60 °C
Operating t°C	-10 ... +40 °C
Measuring range	0 ... 14 pH
Resolution	0.01 pH
Accuracy	+/- 0.02 pH
T compensation	only when an additional T sensor is connected
Data gathering	analogue > digital
Measuring method	analogue

9.3. EC probe

Type	plastic probe with platinised electrodes
Item no.	10212
Dimensions	PVC pipe, transparent, 12 mm Ø, length 163 mm
Connector	8-pole plug with snap lock according to DIN 45321
Cable	120 cm, 4-wire
Storage t°C	-20 ... +60 °C
Operating t°C	-10 ... +40 °C
EC sensor	electrical conductivity
Measuring range	0 ... 200 mS/cm
Resolution	automatic (0.001 / 0.01 / 0.1 mS/cm)
Accuracy	+/- 2 % from measured value
Data gathering	analogue > digital
Measuring method	analogue, multi-frequency AC
T sensor	temperature
Measuring range	-20 ... +80 °C
Resolution	0.1 °C
Accuracy	+/- 0.5 % from measured value
Data gathering	analogue > digital
Measuring method	NTC resistor, R25 = 10 kOhm 1%, B = 3435

9.4. AM probe

Type	insertion probe with 2-pole stainless steel measuring tip
Item no.	10121 (250 mm), 10122 (500 mm), 10123 (750 mm)
Dimensions	stainless steel tube, 10 mm Ø, length 250-500-750 mm
Connector	8-pole plug with snap lock according to DIN 45321
Cable	120 cm, 2-wire
Storage t°C	-20 ... +60 °C
Operating t°C	-10 ... +40 °C
Measuring range	0 ... 2.99 g/l
Resolution	0.01 g/l
Accuracy	+/- 5 % from measured value
T compensation	no
Data gathering	analogue > digital
Measuring method	analogue, multi-frequency AC

9.5. HPT probe

Type	probe for humidity, air pressure, air temperature
Item no.	10130
Dimensions	PVC moulding, black, 12 mm Ø, length 115 mm
Connector	8-pole plug with snap lock according to DIN 45321

Protection class	IP40
Data transfer	I ² C-Bus to COMBI 5000
Cable	120 cm, 4-wire
Storage t°C	-20 ... +60 °C
Operating t°C	-20 ... +60 °C
Data gathering	analogue > digital
Relative humidity	10 ... 100 rH%
Resolution	0.1 rH%
Accuracy	0 ... 20°C: 3% 20 ... 60°C: 2% 60 ... 80°C: 4%
Air pressure	260 ... 1260 hPa
Resolution	0.1 hPa
Accuracy	0.5 hPa
Settings	0 ... 2500 m altitude above sea level on COMBI 5000
Temperature	-20 ... +80 °C
Resolution	0.1 °C
Accuracy	+/- 0.2%

9.6. VWC probe

Type	insertion probe for soil moisture and temperature
Item no.	40821
Dimensions	epoxy circuit board, 1.5 mm thick, 148 mm long

Connector	8-pole plug with snap lock according to DIN 45321
Protection class	dust and waterproof according to IP67
Data transfer	RS485 with MODBUS RTU protocol to COMBI 5000
Cable	500 cm, 4-wire, shielded
Storage t°C	-20 ... +60 °C
Operating t°C	-10 ... +40 °C
VWC sensor	soil moisture
Measuring range	0 ... 51 %VWC
Resolution	0.1 %VWC
Accuracy	+/- 5 % f. meas. value at 0 ... 51 %VWC / 23°C / EC < 3
T compensation	yes
Data gathering	analogue > digital
Measuring method	capacitive, with high frequency according to FDR method
T sensor	temperature
Measuring range	-20 ... +60 °C
Resolution	0.1 °C
Accuracy	+/- 0.5 % from measured value
Data gathering	analogue > digital
Measuring method	2 x NTC resistor, R25 = 10 kOhm 1%, B = 3435

9.7. Multi – probe

Type	insertion probe with 2-pole stainless steel measuring tip
Item no.	10191
Dimensions	black PVC pipe, 10 mm Ø, length 260 mm
Connector	8-pole plug with snap lock according to DIN 45321
Protection class	dust and waterproof according to IP67
Data transfer	counting pulses
Cable	120 cm, 7-wire, shielded
Storage t°C	-20 ... +60 °C
Operating t°C	-10 ... +40 °C
VWC sensor	soil moisture
Measuring range	0 ... 51 %VWC
Resolution	0.1 %VWC
Accuracy	+/- 5 % from measured value for 0 ... 51 %VWC, 23°C, EC < 3 mS/cm
T compensation	yes
Data gathering	analogue > digital
Measuring method	capacitive, with high frequency according to FDR method
AM sensor	salinity
T compensation	yes
Electrical data	like AM-probe (chapter 10.4.)

T sensor	temperature
Measuring range	-20 ... +60 °C
Resolution	0.1 °C
Accuracy	+/- 0.5 % from measured value
Data gathering	analogue > digital
Measuring method	2 x NTC resistor, R25 = 10 kOhm 1%, B = 3435

9.8. Temperature probe

Type	insertion probe, stainless steel
Item no.	10124
Dimensions	stainless steel tube, 3 mm Ø, length 106 mm
Connector	5-pole plug with snap lock according to DIN 45321
Cable	120 cm, 2-wire
Storage t°C	-20 ... +80 °C
Operating t°C	-20 ... +80 °C
Measuring range	-20 ... +80 °C
Resolution	0.1 °C
Accuracy	+/- 0.5 % from measured value
Data gathering	analogue > digital
Measuring method	NTC resistor, R25 = 10 kOhm 1%, B = 3435K

9.9. DataLogger

Type	digital measured value memory
Item no.	10140
Storage	all measurement data in CSV format
Memory volume	2620 datasets
Data export format	Memo;Year;Month;Day;Hour;Minute;Temp;Value;Type
AUTO measuring interval	adjustable from 1 min ... 24 h in steps of 1 min. The unit switches on automatically for measurement and then switches off again.
MANU measuring interval	as often as desired, with the OK key of the COMBI 5000
Quarz clock	clock in 24h format with year, month, day, hour, minute, (incl. leap years). Approx. 7 min power reserve when battery is changed.
Accessories	data transmission cable (chapter 9.10.)

9.10. Data transmission cable

Type	data transmission cable with integrated RS485 / USB converter
Item no.	90079
Data transfer	stored data from DataLogger COMBI 5000
Connector (PC)	USB 2.0
Connector (COMBI)	8-pole plug with snap lock according to DIN 45321

Cable	180cm, 3-wire
Data transfer	RS485, 19200 baud - 8 data bits - 1 stop bit - Even
USB driver	v2.12.28 WHQL Certified (chapter 7)
Storage t°C	-40 ... +80 °C
Operating t°C	-20 ... +80 °C
Power supply	5 Vdc / 15 mA via the USB port of the PC
Note	A programme must be installed on the PC that receives the data and converts it into a text file.



STEP Systems GmbH
Duisburger Str. 44
90451 Nürnberg
Germany

Tel.: +49 911 9626050
Fax: +49 911 9626059

E-Mail: info@stepsystems.de
Internet: www.stepsystems.de

Table for Optimal AM-Values

Activity Meter: optimal AM-Values at good soil moisture.

The values are valid during maturity time and growth period of the plants.

Values shall never fall below 0.1 AM.

If the value falls below the optimal values, fertilisation is required.

For pot plants, fertilisation with liquid fertilisers is recommended.

For bed plants, a fertilisation with mostly Nitrate and Potassium is recommended.

Substrates:

	pH-Value	AM-value
Substrate (peat soil) for young plants (salt-sensitive young plants)		0,2-0,4
Substrate (peat soil) for young plants (salt-tolerable young plants)		0,3-0,5
Substrate (peat soil) for seeding		0,1-0,2
Substrate (peat soil) for propagation		0,2-0,3

Ornamental Plants:

Botanic Name	German Name	pH-Value	AM-Value
Abies balsamea	Zwergtanne	6,0-8,0	0,2-0,4
Abies concolor	Grautanne	5,5-7,5	0,2-0,4
Abies homolepis	Nikkotanne	5,0-7,0	0,2-0,4
Abies koreana	Koreatanne	6,0-8,0	0,2-0,4
Abies lasiocarpa	Compacta	6,0-8,0	0,2-0,4
Abies nordmanniana	Nordmanntanne	6,0-8,0	0,1-0,3
Abies pinsapo	Kelleristanne	6,0-8,0	0,2-0,4
Abies procera	Silbertanne	5,0-7,0	0,2-0,4
Abies veitchii	Veitchtanne	5,0-7,0	0,1-0,3
Acer campestre	Feldahorn	6,0-7,0	0,1-0,3
Acer capillipes	Schlangenhautahorn	5,5-6,5	0,2-0,4
Acer ginnala	Feuerahorn	5,5-6,5	0,2-0,4
Acer japonicum	Japanischer Feuerahorn	6,0-7,0	0,2-0,3
Acer negundo	Eschenahorn	6,0-7,0	0,2-0,4
Acer palmatum	Fächerahorn	6,0-7,0	0,2-0,3
Acer pensylvanicum	Streifenahorn	6,0-7,0	0,2-0,3
Acer plantanoides	Spitzahorn	6,5-7,5	0,1-0,3
Acer pseudoplatanus	Bergahorn	6,0-8,0	0,1-0,3
Acer rubrum	Rotahorn	5,5-6,5	0,2-0,4
Acer rufinerve	Rostbartahorn	6,0-7,0	0,2-0,4
Acer saccharinum	Silberahorn	6,0-7,0	0,1-0,3
Acer saccharum	Zuckerahorn	6,0-7,0	0,2-0,4
Achimeues hybrida		5,0-6,5	0,2-0,3
Actinidia arguta	Strahlengriffel	6,0-7,0	0,2-0,4
Actinidia chinesis	Kiwi	6,0-7,0	0,2-0,4
Adiantum		4,5-6,0	0,2-0,3
Aechmea fasciata		5,5-6,5	0,3-0,4
Aesculus carnea	Kastanie	6,0-8,0	0,1-0,3
Aesculus hippocastanum	Roßkastanie	6,0-8,0	0,1-0,3
Aesculus parviflora	Strauchkastanie	6,0-8,0	0,1-0,4
Ailanthus altissima	Götterbaum	6,0-7,0	0,1-0,3
Akebia quinata	Klettergurke	6,0-7,0	0,2-0,5
Alnus cordata	Erle	6,5-7,5	0,1-0,3
Alnus glutinosa	Schwarz-Rot-Erle	5,5-6,5	0,1-0,3
Alnus incana	Grau-Weiß-Erle	7,0-8,0	0,1-0,3
Alstromeria		6,0-7,0	0,3-0,5
Amaranthus-Fuchsschwanz		5,5-6,5	0,3-0,5
Amelanchier laevis	Hängende Felsenbirne	6,5-7,5	0,1-0,3
Amelanchier lamarckii	Kupfer-Felsenbirne	6,5-8,0	0,1-0,3
Amorpha Canescens	Bleibusch	6,5-7,5	0,2-0,4
Amorpha fruticosa	Bastardindigo	6,5-7,5	0,2-0,6
Anemone coronaria		5,5-6,5	0,3-0,4

Botanic Name	German Name	pH-Value	AM-Value
<i>Anthurium andreanum</i>		4,5-5,5	0,3-0,4
<i>Anthurium scherzianum</i>		4,5-5,5	0,2-0,3
<i>Antirrhinum-Löwenmaul</i>		5,5-7,0	0,4-0,6
<i>Aphelandra squattosa</i>		5,0-6,5	0,3-0,5
<i>Aralia elata</i>	Aralie	6,5-7,5	0,2-0,6
<i>Araucania araucana</i>	Schmucktanne	7,0-8,0	0,2-0,4
<i>Aristolochia macrrophylla</i>	Pfeifenwinde	6,5-7,5	0,2-0,4
<i>Asparaqus plumus</i>		5,5-7,0	0,2-0,3
<i>Asparaqus sprengeri</i>		5,5-7,0	0,5-0,8
<i>Azalea indica</i>		3,8-5,0	0,3-0,5
<i>Begonia bertinii</i>		5,0-6,5	0,3-0,5
<i>Begonia elatior</i>		5,0-6,5	0,3-0,6
<i>Begonia Knollenbegonien</i>		5,0-6,0	0,3-0,5
<i>Begonia Lorraine</i>		5,0-6,0	0,3-0,5
<i>Begonia semperflorens</i>		5,0-6,5	0,3-0,5
<i>Bellis perennis</i>		6,0-7,0	0,3-0,5
<i>Berberis buxifolia</i>	Berberitze	6,5-7,5	0,1-0,3
<i>Berberis candidula</i>	Berberitze	6,5-7,5	0,1-0,3
<i>Berberis gagnepainii</i>	Berberitze	6,5-7,5	0,1-0,3
<i>Berberis hookeri</i>	Berberitze	6,5-7,5	0,2-0,4
<i>Berberis julianae</i>	Berberitze	6,5-7,5	0,2-0,4
<i>Berberis parkjuweel</i>	Berberitze	6,5-7,5	0,2-0,4
<i>Berberis red jewel</i>	Berberitze	6,5-7,5	0,2-0,4
<i>Berberis stenophylla</i>	Berberitze	6,5-7,5	0,1-0,3
<i>Berberis superba</i>	Berberitze	6,5-7,5	0,1-0,3
<i>Berberis thunbergii</i>	Berberitze	6,5-7,5	0,2-0,4
<i>Berberis verrucandi</i>	Berberitze	6,5-7,5	0,2-0,4
<i>Berberis wilsoniae</i>	Berberitze	6,5-7,5	0,2-0,4
<i>Betula albosinensis</i>	Kupferbirke	6,5-7,5	0,2-0,4
<i>Betula ermannii</i>	Goldbirke	6,5-7,5	0,2-0,4
<i>Betula maximowicziana</i>	Birke	6,5-7,5	0,2-0,4
<i>Betula nana</i>	Polar Zwergbirke	6,5-7,5	0,2-0,3
<i>Betula nigra</i>	Schwarzbirke	6,0-7,0	0,3-0,6
<i>Betula papyrifera</i>	Papierbirke	6,0-8,0	0,1-0,3
<i>Betula pend. Dalecarlica</i>	Ornas Birke	6,5-7,5	0,2-0,4
<i>Betula pend. Fastigata</i>	Säulenbirke	6,5-7,5	0,2-0,4
<i>Betula pend. Purpurea</i>	Purpurbirke	6,5-7,5	0,2-0,4
<i>Betula pend. Tristis</i>	Hängebirke	6,5-7,5	0,2-0,4
<i>Betula pend. Youngii</i>	Trauerbirke	6,5-7,5	0,2-0,4
<i>Betula pendula</i>	Weiß-Sandbirke	6,0-7,0	0,1-0,3
<i>Betula platyphylla</i>	Japanische Birke	6,5-7,5	0,2-0,4
<i>Betula utilis</i>	Himalaya Birke	6,0-6,5	0,1-0,4
<i>Brassica oleracea</i>		6,0-7,0	0,4-0,6
<i>Bromelien</i>		4,0-5,5	0,2-0,4
<i>Buddlera alternifolia</i>	Sommerflieder	6,0-8,0	0,1-0,3
<i>Buddlera davidii</i>	Hybriden	6,0-8,0	0,1-0,3
<i>Buxus sempervirens</i>	Buxbaum	6,0-8,0	0,2-0,4
<i>Calceolaria Hybriden</i>		5,0-6,5	0,3-0,5
<i>Callicarpa bodinieri</i>	Schönfrucht	6,0-6,5	0,2-0,4
<i>Calluna vulgaris</i>	Besenheide	4,0-5,0	0,1-0,3
<i>Calyanthus floridus</i>	Gewürzstrauch	6,5-7,5	0,2-0,4
<i>Camellia japonica</i>		4,0-5,5	0,3-0,5
<i>Campanula</i>		6,0-6,5	0,3-0,6
<i>Campsis radicans</i>	Trompetenblume	6,0-7,0	0,2-0,4
<i>Caragana arboresens</i>	Erbsenstrauch	6,0-8,0	0,1-0,3
<i>Carpinus betulus</i>	Hain-Weißbuche	6,0-8,0	0,1-0,3
<i>Caryopteris clandonensis</i>	Bartblume	6,5-7,5	0,2-0,4

Botanic Name	German Name	pH-Value	AM-Value
<i>Castanea sativa</i>	Eßbare Kastanie	6,0-7,0	0,1-0,3
<i>Catalpa bignonioides</i>	Trompetenbaum	7,0-8,5	0,2-0,4
<i>Cattleya mossiae</i>		4,0-5,5	0,2-0,3
<i>Ceanothus Gloire de Versails</i>	Säckelblume	6,5-7,5	0,2-0,4
<i>Cedrus atlantica</i>	Zeder	7,0-8,0	0,2-0,4
<i>Cedrus deodara</i>	Himalajazeder	5,0-7,0	0,2-0,4
<i>Cedrus glauca</i>	Blauzeder	6,5-8,5	0,2-0,4
<i>Cedrus pyramidalis</i>	Pyramidenzeder	6,5-8,5	0,2-0,4
<i>Cedrus pendula</i>	Hängezeder	6,5-8,5	0,2-0,4
<i>Celastrus orbiculatus</i>	Baumwürger	6,5-7,5	0,2-0,4
<i>Cercidiphyllum japonicum</i>	Judasblattbaum	6,5-7,5	0,2-0,4
<i>Cercis siliquastrum</i>	Judasbaum	6,5-8,0	0,2-0,4
<i>Chainomeles japonica</i>	Scheinquitte	6,0-6,5	0,1-0,3
<i>Chainomeles lagenaria</i>	Scheinquitte	6,0-6,5	0,1-0,3
<i>Chamecypris alumil Gold</i>	Scheinzypresse	6,0-8,0	0,1-0,3
<i>Chamecypris column. glauca</i>	Scheinzypresse	6,0-8,0	0,1-0,3
<i>Chamecypris ellwoodii</i>	Scheinzypresse	6,5-8,0	0,1-0,3
<i>Chamecypris glauca spek</i>	Scheinzypresse	6,5-8,0	0,2-0,4
<i>Chamecypris golden wonder</i>	Scheinzypresse	6,5-8,0	0,2-0,4
<i>Chamecypris keleris aurea</i>	Scheinzypresse	6,5-8,0	0,2-0,4
<i>Chamecypris lanei</i>	Scheinzypresse	6,5-8,0	0,2-0,4
<i>Chamecypris lawsoniana</i>	Scheinzypresse	6,0-8,0	0,1-0,3
<i>Chamecypris minima glauca</i>	Scheinzypresse	6,5-8,0	0,2-0,4
<i>Chamecypris nootkat. glauca</i>	Scheinzypresse	6,5-8,0	0,2-0,4
<i>Chamecypris nootkat. lutea</i>	Scheinzypresse	6,5-8,0	0,2-0,4
<i>Chamecypris nootkat. pend.</i>	Scheinzypresse	6,0-8,0	0,2-0,4
<i>Chamecypris obtusa</i>	Scheinzypresse	6,0-8,0	0,2-0,4
<i>Chamecypris pisif. filifera</i>	Scheinzypresse	6,0-8,0	0,2-0,4
<i>Chamecypris pisif. plumosa</i>	Scheinzypresse	6,0-8,0	0,1-0,3
<i>Chamecypris pisif. squarrosa</i>	Scheinzypresse	6,0-8,0	0,1-0,3
<i>Chamecypris pisifera boule.</i>	Scheinzypresse	6,0-8,0	0,1-0,3
<i>Chamecypris stardust</i>	Scheinzypresse	6,5-8,0	0,2-0,4
<i>Chamecypris stewartii</i>	Scheinzypresse	6,5-8,0	0,2-0,4
<i>Chamecypris white spot</i>	Scheinzypresse	6,5-8,0	0,2-0,4
<i>Chionanthus virginicus</i>	Schneeblume	6,0-6,5	0,2-0,4
<i>Chrysanthemum indicum</i>		5,5-7,0	0,5-0,8
<i>Cissus antarctica</i>		5,0-6,5	0,4-0,6
<i>Clematis alpina</i>	Alpenwaldrebe	6,5-7,5	0,2-0,4
<i>Clematis hybriden</i>	Waldrebe	6,5-7,5	0,2-0,4
<i>Clematis montana</i>	Rote Waldrebe	6,5-8,0	0,2-0,4
<i>Clematis paniculata</i>	Herbstwaldrebe	6,5-8,0	0,2-0,4
<i>Clematis tangutica</i>	Goldwaldrebe	6,5-8,0	0,2-0,4
<i>Clematis vitalba</i>	Waldrebe	6,5-8,0	0,1-0,3
<i>Clematis viticella</i>	Ital. Waldrebe	7,0-8,0	0,1-0,3
<i>Clethra alnifolia</i>	Scheinelle	6,0-7,0	0,2-0,4
<i>Clivia minata</i>		5,5-6,5	0,3-0,4
<i>Codiaeum (Croton)</i>		5,0-6,0	0,2-0,4
<i>Coleus</i>		6,0-7,0	0,4-0,6
<i>Columnea</i>		5,0-6,0	0,2-0,4
<i>Colutea arborescens</i>	Blasenstrauch	6,5-7,5	0,1-0,3
<i>Convallaria</i>		6,0-6,5	0,3-0,5
<i>Cornus alba</i>	Gemeiner-Hartriegel	6,0-8,0	0,1-0,3
<i>Cornus alba kesselringii</i>	Schwarzholz-Hartriegel	6,5-8,0	0,1-0,3
<i>Cornus alba marginata</i>	Weißbunter-Hartriegel	6,0-8,0	0,1-0,3
<i>Cornus alba sibirica</i>	Purpur-Hartriegel	6,0-8,0	0,2-0,4
<i>Cornus alba spaethii</i>	Gelbbunter-Hartriegel	6,5-7,5	0,2-0,4
<i>Cornus alternifolia</i>	Baumwachs	6,5-7,5	0,2-0,4
<i>Cornus canadensis</i>	Teppich-Hartriegel	4,0-6,0	0,1-0,3
<i>Cornus controversa</i>	Etagen-Hartriegel	6,5-8,0	0,2-0,4

Botanic Name	German Name	pH-Value	AM-Value
<i>Cornus florida</i>	Blumen-Hartriegel	6,0-7,0	0,2-0,4
<i>Cornus konsa</i>	Japanischer-Hartriegel	6,0-7,0	0,2-0,4
<i>Cornus mas</i>	Kornelkirsche	6,0-8,5	0,1-0,3
<i>Cornus sanguinea</i>	Roter-Hartriegel	6,5-8,5	0,1-0,3
<i>Cornus stolonifera</i>	Hoher-Hartriegel	6,5-8,0	0,1-0,3
<i>Cornus stolonifera sericea</i>	Rotholz-Hartriegel	6,5-8,0	0,1-0,3
<i>Corylopsis paniciflora</i>	Glockenhasel	6,5-7,5	0,2-0,4
<i>Corylopsis spicata</i>	Glockenhasel	6,5-7,5	0,2-0,4
<i>Corylus acellana</i>	Rotblättrige Zellernuß	6,0-8,0	0,2-0,4
<i>Corylus avellana</i>	Wald-Haselnuß	6,0-8,5	0,1-0,3
<i>Corylus avellana contorta</i>	Korkenzieher-Haselnuß	6,0-8,0	0,2-0,4
<i>Corylus colurna</i>	Baum-Hasel	6,5-8,5	0,2-0,4
<i>Corylus maxima</i>	Großfrüchtige Haselnuß	6,5-7,5	0,1-0,3
<i>Corylus maxima purpurea</i>	Purpur-Haselnuß	6,0-8,0	0,2-0,4
<i>Cotinus coggygria</i>	Perückenstrauch	6,5-8,0	0,2-0,4
<i>Cotoneaster acutifolius</i>	Spitzblättrige Felsenmispel	6,5-8,0	0,1-0,3
<i>Cotoneaster adpressus</i>	Zwergmispel	6,0-8,0	0,1-0,3
<i>Cotoneaster bullatus</i>	Strauchmispel	6,5-8,0	0,1-0,3 .
<i>Cotoneaster d. skogholm</i>	Böschungsmispel	6,5-8,0	0,1-0,3
<i>Cotoneaster d. streibs findl.</i>	Kriechmispel	6,5-8,0	0,2-0,4
<i>Cotoneaster d. var. radicans</i>	Teppichmispel	6,5-8,0	0,2-0,4
<i>Cotoneaster dammeri</i>	Zwergmispel	6,5-8,0	0,2-0,4
<i>Cotoneaster dammeri</i>	Kriechmispel	6,5-8,0	0,2-0,4
<i>Cotoneaster dielsianus</i>	Strauchmispel	6,5-8,0	0,1-0,3
<i>Cotoneaster divaricatus</i>	Strauchmispel	6,5-8,0	0,3-0,5
<i>Cotoneaster franchetti</i>	Strauchmispel	6,5-8,0	0,3-0,5
<i>Cotoneaster horizontalis</i>	Fächermispel	7,0-8,0	0,1-0,3
<i>Cotoneaster microphyllus</i>	Zwergmispel	6,5-8,0	0,2-0,4
<i>Cotoneaster multiflorus</i>	Strauchmispel	6,5-8,0	0,1-0,3
<i>Cotoneaster pendulus</i>	Hängemispel	6,5-8,0	0,1-0,3
<i>Cotoneaster praecox</i>	Felsenmispel	6,5-8,0	0,1-0,3
<i>Cotoneaster salicifolius</i>	Immergrüne Mispel	6,5-8,0	0,2-0,4
<i>Crataegus carrierei</i>	Apfeldorn	7,0-8,5	0,2-0,4
<i>Crataegus laevigata</i>	Rotdorn	7,0-8,0	0,1-0,3
<i>Crataegus monogyna</i>	Weiße Dorn	6,5-8,5	0,1-0,3
<i>Crataegus monogyna-stricta</i>	Säulendorn	7,0-8,0	0,2-0,4
<i>Crataegus prunifolia</i>	Pflaumendorn	6,5-8,5	0,1-0,3
<i>Crateagus coccinea</i>	Scharlachdorn	7,0-8,5	0,1-0,3
<i>Crateagus crus-galli</i>	Hahnendorn	7,0-8,5	0,1-0,3
<i>Crossandra</i>		5,5-6,5	0,2-0,4
<i>Cryptomeria japonica</i>	Sicheltanne	7,0-8,0	0,2-0,4
<i>Cupressocyparis leylandii</i>		6,0-8,0	0,1-0,3
<i>Cyclamen</i>		5,5-6,5	0,4-0,6
<i>Cymbidium</i>		4,5-6,0	0,2-0,4
<i>Cytisus beanii</i>	Ginster	7,0-8,0	0,1-0,3
<i>Cytisus decumbens</i>	Kriechginster	7,0-8,0	0,1-0,3
<i>Cytisus kewensis</i>	Elfenbeinginster	7,0-8,0	0,1-0,3
<i>Cytisus praecox</i>	Elfenbeinginster	6,0-6,5	0,1-0,3
<i>Cytisus purpurens</i>	Purpurginster	6,5-8,5	0,1-0,3
<i>Cytisus scoparius</i>	Besenginster	6,0-7,0	0,1-0,3
<i>Cytisus scoparius hybriden</i>	Besenginster	6,0-6,5	0,2-0,4
<i>Daboecia cantabrica</i>	Irische Heide	4,5-5,5	0,2-0,4
<i>Dahlia-Topf</i>		6,0-7,0	0,4-0,6
<i>Daphne mezereum</i>	Weiße Seidelbast	7,5-8,5	0,1-0,3
<i>Daphne oneorum</i>	Seidelbast	7,0-8,0	0,2-0,4
<i>Davidia involucrata</i>	Taubenbaum	6,5-8,0	0,3-0,5
<i>Decaisnea fargesii</i>	Blauschote	7,0-7,5	0,2-0,4
<i>Dendrobium</i>		4,5-5,5	0,2-0,3
<i>Deutzia gracilis</i>	Maiblumenstrauch	6,0-8,0	0,1-0,4
<i>Deutzia kamiflora</i>	Deutzie weiß-rosa	6,0-8,0	0,1-0,4

Botanic Name	German Name	pH-Value	AM-Value
<i>Deutzia magnifica</i>	Deutzie weiß	6,0-8,0	0,1-0,4
<i>Deutzia mont rose</i>	Deutzie	6,0-8,0	0,1-0,4
<i>Deutzia rosea</i>	Deutzie	6,0-8,0	0,1-0,4
<i>Deutzia scabra</i>	Deutzie	6,0-8,0	0,1-0,4
<i>Dianthus (Edelnelke)</i>		6,0-7,0	0,5-0,8
<i>Dieffenbachia</i>		5,0-6,5	0,4-0,6
<i>Dracaena</i>		5,0-6,0	0,2-0,4
<i>Elaeagnus angustifolia</i>	Ölweide	7,0-8,0	0,1-0,3
<i>Elaeagnus commutata</i>	Silber-Ölweide	7,0-8,0	0,1-0,3
<i>Elaeagnus ebbingei</i>	Wintergrüne Ölweide	6,5-8,0	0,1-0,3
<i>Elaeagnus multiflora</i>	Eßbare Ölweide	6,5-8,5	0,1-0,3
<i>Elaeagnus pungens</i>	Buntlaubige Ölweide	6,5-7,5	0,2-0,4
<i>Enkianthus campanulatus</i>	Prachtglocke	4,5-6,5	0,2-0,4
<i>Enkianthus nigrum</i>	Krähenbeere	6,5-7,5	0,2-0,4
<i>Erica alatus</i>	Echte Heide	6,0-8,0	0,1-0,4
<i>Erica carnea</i>		4,5-6,0	0,3-0,6
<i>Erica cinerea</i>	Echte Heide	4,5-6,0	0,1-0,4
<i>Erica gracilis</i>		3,5-4,5	0,3-0,5
<i>Erica tetralix</i>	Echte Heide	4,5-6,0	0,1-0,4
<i>Erica vagans</i>	Echte Heide	4,5-6,0	0,1-0,4
<i>Euonymus alatus</i>	Korkspindel	6,0-7,0	0,2-0,4
<i>Euonymus europaeus</i>	Pfaffenhütchen	7,0-8,5	0,1-0,3
<i>Euonymus fortunei</i>	Purpurkriechspindel	6,5-8,0	0,1-0,3
<i>Euonymus planipis</i>	Großfrüchtige Kriechspindel	6,5-8,0	0,1-0,3
<i>Euphorbia fulgens</i>		5,5-6,5	0,3-0,5
<i>Euphorbia milii</i>		5,5-6,5	0,4-0,6
<i>Euphorbia pulch.</i>		5,5-7,0	0,4-0,6
<i>Exochorda racemosa</i>	Prachspiere	5,0-7,0	0,1-0,3
<i>Fagus silvatica</i>	Rotbuche	6,0-8,0	0,1-0,3
<i>Farne</i>		4,5-6,0	0,3-0,5
<i>Ficus decora</i>		5,0-6,5	0,4-0,7
<i>Ficus monstera</i>		5,0-6,5	0,4-0,7
<i>Forsythia</i>	Goldglöckchen	6,0-8,0	0,2-0,4
<i>Fothergilla gardenii</i>	Niedriger Federbuschstrauch	5,5-7,0	0,2-0,4
<i>Fothergilla major</i>	Niedriger Federbuschstrauch	5,5-7,0	0,2-0,4
<i>Fothergilla monticola</i>	Niedriger Federbuschstrauch	5,5-7,0	0,2-0,4
<i>Fraxinus excelsior</i>	Gemeine Esche	5,5-8,5	0,1-0,3
<i>Fraxinus ornus</i>	Blumenesche	7,0-8,5	0,1-0,3
<i>Fresia hybrida</i>		6,0-7,0	0,2-0,4
<i>Fuchsia Hybriden</i>		5,5-6,5	0,3-0,5
<i>Gardenia grandiflora</i>		5,5-6,5	0,2-0,4
<i>Gaultheria procumbens</i>	Rote Scheinbeere	5,5-6,5	0,2-0,4
<i>Gaultheria shallon</i>	Hohe Teppichbeere	5,5-6,5	0,2-0,4
<i>Genista lydia</i>	Ginster	6,5-8,0	0,1-0,3
<i>Genista radiata</i>	Strahlenginster	6,5-8,0	0,1-0,3
<i>Genista sagittalis</i>	Pfeilginster	5,5-6,5	0,2-0,4
<i>Genista tinctoria</i>	Färberginster	5,5-6,5	0,1-0,3
<i>Gerbera Beet</i>		5,0-6,0	0,4-0,6
<i>Gerbera Container</i>		5,0-6,0	0,4-0,6
<i>Gerbera jamesonii</i>		5,0-6,5	0,3-0,5
<i>Ginkgo biloba</i>	Fächerblattbaum	6,0-8,0	0,2-0,4
<i>Gladiolen-Haus</i>		6,0-7,0	0,3-0,5
<i>Gleditsia triacanthos</i>	Lederhülsenbaum	6,5-8,5	0,2-0,4
<i>Gymnocladus dioecus</i>	Geweihbaum	6,5-8,5	0,2-0,4
<i>Halesia carolina</i>	Maiglöckchenstrauch	5,5-7,0	0,2-0,4
<i>Halesia monticola</i>	Aufrechtes Silberglöckchen	6,5-7,0	0,2-0,4
<i>Hamamelis japonica</i>	Zaubernuß	6,0-6,5	0,2-0,4

Botanic Name	German Name	pH-Value	AM-Value
<i>Hamamelis mollis</i>	Lichtmeß-Zaubernduß	6,0-6,5	0,2-0,4
<i>Hamamelis virginiana</i>	Herbstblühende Zaubernduß	6,0-6,5	0,2-0,4
<i>Hedera</i>		5,5-7,0	0,4-0,6
<i>Hedera colchica</i>	Efeu	6,0-8,0	0,2-0,4
<i>Hedera helix</i>	Gemeiner Efeu	6,0-8,5	0,2-0,4
<i>Hedera helix - goldheart</i>	Bunter Kletterfeu	6,0-7,0	0,2-0,4
<i>Hibiscus</i>		5,5-6,5	0,4-0,7
<i>Hibiscus syriacus</i>	Eibisch	6,5-8,0	0,2-0,4
<i>Hippeastrum</i> -Topf		6,0-7,0	0,3-0,5
<i>Hippophae rhamnoides</i>	Sanddorn	7,0-8,5	0,1-0,3
<i>Holodiscus discolor</i>	Scheinspiere	6,0-7,0	0,1-0,3
<i>Hydrangea arb. grandiflora</i>	Ball-Hortensie	6,0-6,5	0,2-0,4
<i>Hydrangea arborescens</i>	Hortensie	6,0-7,0	0,2-0,4
<i>Hydrangea aspera</i> ssp.	Hortensie	5,0-6,0	0,2-0,4
<i>Hydrangea aspera</i> var.	Hortensie	4,0-6,0	0,2-0,4
<i>Hydrangea blau</i>		3,5-4,5	0,3-0,6
<i>Hydrangea hybriden</i>	Bauernhortensie	6,0-6,5	0,2-0,4
<i>Hydrangea paniculata</i>	Pispennortensie	6,0-7,0	0,2-0,4
<i>Hydrangea petiolaris</i>	Kletterhortensie	6,0-6,5	0,2-0,4
<i>Hydrangea rot/weiß</i>		5,5-6,5	0,3-0,6
<i>Hydrangea sargentiana</i>	Samthortensie	4,0-6,0	0,2-0,4
<i>Hypericum calycinum</i>	Johanniskraut	6,5-8,5	0,1-0,3
<i>Hypericum moserianum</i>	Johanniskraut	6,5-8,5	0,1-0,3
<i>Hypericum patulum</i>	Johanniskraut	6,5-8,5	0,1-0,3
<i>Ilex aquifolium</i>	Stechpalme-Hülse	6,0-8,0	0,2-0,4
<i>Ilex aquifolium - myrtifolium</i>	Lanzen-Hülse	5,5-7,0	0,2-0,4
<i>Ilex crenata</i>	Japanische Stechpalme	5,5-6,5	0,2-0,4
<i>Ilex verticillata</i>	Korallen-Hülse	6,0-8,0	0,2-0,4
<i>Impatiens</i>		5,5-6,5	0,4-0,6
<i>Jasminum nudiflorum</i>	Winter-Jasmin	7,0-8,5	0,2-0,4
<i>Juglans regia</i>	Walnuß	6,5-8,0	0,2-0,4
<i>Juniperus chin. mint julep</i>	Wacholder	6,0-8,0	0,1-0,3
<i>Juniperus chin. old gold</i>	Wacholder	6,0-8,0	0,2-0,4
<i>Juniperus chin. pfitzeriana</i>	Wacholder	6,0-8,0	0,1-0,3
<i>Juniperus chin. plumosa</i>	Wacholder	6,0-8,0	0,2-0,4
<i>Juniperus chinensis blaauw</i>	Wacholder	6,0-8,0	0,2-0,4
<i>Juniperus chinensis hetzii</i>	Wacholder	6,0-8,0	0,1-0,3
<i>Juniperus comm. horizontalis</i>	Wacholder	6,0-8,0	0,1-0,3
<i>Juniperus comm. hornibrokii</i>	Wacholder	6,0-8,0	0,1-0,3
<i>Juniperus comm. meyer</i>	Wacholder	6,0-8,0	0,1-0,3
<i>Juniperus comm. repanda</i>	Wacholder	6,0-8,0	0,1-0,3
<i>Juniperus comm. sabina femina</i>	Sadebaum	6,0-8,0	0,1-0,3
<i>Juniperus comm. sabina tamar.</i>	Sadebaum	6,0-8,0	0,1-0,3
<i>Juniperus comm. suecica</i>	Wacholder	6,0-8,0	0,1-0,3
<i>Juniperus communis hibernica</i>	Wacholder	6,0-8,0	0,1-0,3
<i>Juniperus grey owl</i>	Wacholder	6,0-8,5	0,1-0,3
<i>Juniperus skyrocket</i>	Wacholder	6,0-8,0	0,2-0,4
<i>Juniperus squam. blue star</i>	Wacholder	6,0-7,0	0,1-0,3
<i>Juniperus squam. meyeri</i>	Wacholder	6,0-8,0	0,1-0,3
<i>Juniperus squamata blue car.</i>	Wacholder	6,0-8,0	0,1-0,3
<i>Juniperus virginiana canaertii</i>	Wacholder	6,0-8,5	0,2-0,4
<i>Juniperus virginiana glauca</i>	Wacholder	6,0-8,5	0,2-0,4
<i>Kakteen</i>		6,0-7,0	0,3-0,4
<i>Kalanchoe</i>		5,5-6,5	0,3-0,5
<i>Kalmia angustifolia</i>	Lorbeerrose	5,0-6,0	0,2-0,4
<i>Kalmia latifolia</i>	Berglorbeere	5,0-6,0	0,2-0,4
<i>Kerria japonica</i>	Ranunkelstrauch	5,5-6,5	0,2-0,4
<i>Koelreuteria paniculata</i>	Blasenbaum	6,5-8,5	0,2-0,4
<i>Kolkwitzia amabilis</i>	Kolkwitzie	6,5-8,5	0,1-0,3
<i>Laburnum anagyroides</i>	Goldregen	6,0-8,0	0,1-0,3

Botanic Name	German Name	pH-Value	AM-Value
<i>Larix kaempferi</i>	Japanische Lärche	6,0-8,0	0,1-0,3
<i>Larix kaempferi diana</i>	Japanische Lärche	6,0-8,0	0,1-0,3
<i>Larix kaempferi pendula</i>	Japanische Hängelärche	6,0-8,0	0,2-0,4
<i>Larix decidua</i>	Europäische Lärche	6,0-8,0	0,1-0,3
<i>Lathyrus odoratus</i>		6,0-7,0	0,3-0,5
<i>Lespedeza thunbergii</i>	Buschklee	6,5-8,0	0,2-0,4
<i>Leucothoe catesbaei</i>	Lorbeerkrüglein	4,5-6,5	0,2-0,4
<i>Ligustrum delavayeanum</i>	Liguster	6,5-8,0	0,2-0,4
<i>Ligustrum obtusifolium</i>	Liguster	6,0-7,5	0,1-0,3
<i>Ligustrum ovalifolium</i>	Liguster	6,5-8,0	0,1-0,3
<i>Ligustrum vulgare</i>	Gemeiner Liguster	6,0-8,5	0,1-0,3
<i>Lilium hybriden</i>		5,5-7,0	0,3-0,5
<i>Liquidambar styraciflua</i>	Amberbaum	6,0-7,0	0,2-0,4
<i>Liriodendron tulipifera</i>	Tulpenbaum	6,0-7,0	0,2-0,4
<i>Lobelia</i>		6,0-7,0	0,3-0,4
<i>Lonicera acuminata</i>	Heckenkirsche	7,0-8,0	0,2-0,4
<i>Lonicera caprifolium</i>	Heckenkirsche	7,0-8,0	0,2-0,4
<i>Lonicera heckrottii</i>	Duft-Geißblatt	7,0-8,0	0,2-0,4
<i>Lonicera henryi</i>	Immergrünes Geißblatt	7,0-8,0	0,2-0,4
<i>Lonicera japonica</i>	Gelbbuntes Geißblatt	7,0-8,0	0,2-0,4
<i>Lonicera korokowii</i>	Geißblatt	6,5-8,0	0,1-0,3
<i>Lonicera ledeborwrii</i>	Geißblatt	6,5-8,0	0,1-0,3
<i>Lonicera maackii</i>	Geißblatt	6,5-8,0	0,1-0,3
<i>Lonicera nitida</i>	Geißblatt	6,5-8,5	0,1-0,3
<i>Lonicera pileata</i>	Geißblatt	6,0-8,0	0,1-0,3
<i>Lonicera tatarica</i>	Geißblatt	6,0-8,0	0,1-0,3
<i>Lonicera teilmanniana</i>	Geißblatt	6,5-7,0	0,2-0,4
<i>Lonicera xylosteum</i>	Gemeine Heckenkirsche	7,0-8,5	0,1-0,3
<i>Lycium halimifolium</i>	Bocksdorf	6,5-8,5	0,1-0,3
<i>Magnolia kobus</i>	Magnolie	5,5-7,5	0,2-0,4
<i>Magnolia liliiflora</i>	Magnolie	6,5-8,0	0,2-0,4
<i>Magnolia loebneri</i>	Magnolie	5,5-7,5	0,2-0,4
<i>Magnolia soulangiana</i>	Tulpenmagnolie	5,5-7,0	0,2-0,4
<i>Magnolia stellata</i>	Sternmagnolie	6,5-8,0	0,2-0,4
<i>Mahonia aquifolium</i>	Mahonie	6,0-8,0	0,1-0,3
<i>Mahonia beallii</i>	Mahonie	6,0-8,0	0,1-0,3
<i>Mahonia wintersun</i>	Wintermahonie	6,0-8,0	0,1-0,3
<i>Malus hybrida</i>	Zierapfel	7,0-8,0	0,2-0,4
<i>Matthiola</i>		6,0-7,0	0,4-0,6
<i>Metasequoia glyptostrob.</i>	Urweltmammutbaum	6,0-8,0	0,1-0,3
<i>Microbiota decussata</i>	Sibirischer Fächerwacholder	6,0-8,0	0,2-0,4
<i>Monstera deliciosa</i>		5,0-6,5	0,4-0,7
<i>Morus alba</i>	Maulbeerbaum	7,0-8,5	0,2-0,4
<i>Nerium oleander</i>		5,5-6,5	0,4-0,6
<i>Nothofagus antarctica</i>	Pfennigbuche	5,5-6,5	0,2-0,4
<i>Orchideen epiphyt.</i>		4,5-5,5	0,2-0,3
<i>Pachysandra terminalis</i>	Schattengrün	6,0-8,0	0,2-0,4
<i>Palmen</i>		5,5-7,0	0,3-0,5
<i>Paphiopedilum</i>		4,5-5,5	0,2-0,3
<i>Parrotia persica</i>	Eisenholzbaum	6,5-8,0	0,2-0,4
<i>Parthenocissus quinquefolia</i>	Jungfernrebe	7,0-8,0	0,2-0,4
<i>Parthenocissus trispinata</i>	Jungfernrebe	7,0-8,0	0,2-0,4
<i>Paulownia tomentosa</i>	Blauglockenbaum	7,0-8,5	0,2-0,4
<i>Pelargonium peltatum</i>		5,5-7,0	0,4-0,6
<i>Pelargonium zonale</i>		5,5-7,0	0,4-0,6
<i>Peperomia</i>		5,0-6,5	0,3-0,5

Botanic Name	German Name	pH-Value	AM-Value
<i>Pernettya mucronata</i>	Torfmyrte	5,0-6,0	0,2-0,4
<i>Perovskia abrotanoides</i>	Blaurute	7,0-8,5	0,2-0,4
<i>Petunia hybrida</i>		5,5-6,5	0,3-0,5
<i>Philadelphus coronarius</i>	Falscher Jasmin	6,5-8,5	0,1-0,3
<i>Philadelphus inodorus</i> var.	Falscher Jasmin	6,5-8,5	0,1-0,3
<i>Philodendron</i>		5,0-6,0	0,4-0,6
<i>Photinia fraserie</i>	Glanzmispel	5,0-6,0	0,2-0,4
<i>Photinia villosa</i>	Glanzmispel	5,0-6,0	0,2-0,4
<i>Physocarpus opulifolius</i>	Blasenspiere	6,0-7,0	0,1-0,3
<i>Picea abies nidiformis</i>	Nestfichte	6,0-8,0	0,2-0,4
<i>Picea abies ohlendorfii</i>	Kegelfichte	6,0-8,0	0,2-0,4
<i>Picea abies</i>	Rotfichte	6,0-8,0	0,1-0,3
<i>Picea abies acrocona</i>	Zapfenfichte	6,0-8,0	0,2-0,4
<i>Picea abies columnaris</i>	Säulenfichte	6,0-8,0	0,2-0,4
<i>Picea abies echiniformis</i>	Igelfichte	6,0-8,0	0,2-0,4
<i>Picea abies inversa</i>	Hängefichte	6,0-8,0	0,2-0,4
<i>Picea abies little gern</i>	Zwergkonifere	6,0-8,0	0,2-0,4
<i>Picea abies maxwellii</i>	Zwergkonifere	6,0-8,0	0,2-0,4
<i>Picea abies procumbens</i>	Zwergkonifere	6,0-8,0	0,2-0,4
<i>Picea abies pumila glauca</i>	Zwergkonifere	6,0-8,0	0,2-0,4
<i>Picea abies pygmaea</i>	Zwergkonifere	6,0-8,0	0,2-0,4
<i>Picea abies virgata</i>	Schlangenfichte	6,0-8,0	0,2-0,4
<i>Picea breweriana</i>	Mähnenfichte	6,0-8,0	0,2-0,4
<i>Picea glauca alberts globe</i>	Kugelfichte	6,0-8,0	0,2-0,4
<i>Picea glauca conica</i>	Zuckerhutfichte	6,0-8,0	0,2-0,4
<i>Picea glauca echiniformis</i>	Blauigelfichte	6,0-8,0	0,2-0,4
<i>Picea Koster</i>	Blaufichte	6,0-8,5	0,2-0,4
<i>Picea omorika</i>	Serbische Fichte	6,0-8,0	0,2-0,4
<i>Picea omorika nana</i>	Serbische Kegelfichte	6,0-8,0	0,2-0,4
<i>Picea orientalis</i>	Orientalische Fichte	6,0-8,0	0,1-0,3
<i>Picea orientalis area</i>	Orientalische Gold Fichte	6,0-8,0	0,2-0,4
<i>Picea orientalis nutans</i>	Orientalische Fichte	6,0-8,0	0,2-0,4
<i>Picea pendula bruns</i>	Serbische Hängefichte	6,0-8,0	0,2-0,4
<i>Picea pungens glauca</i>	Blaustechfichte	6,5-8,5	0,1-0,3
<i>Picea pungens glauca globos</i>	Fichte	6,0-8,0	0,2-0,4
<i>Picea pungens hoopsii</i>	Silberfichte	6,0-8,5	0,2-0,4
<i>Picea purpurea</i>	Purpurfichte	6,0-8,0	0,2-0,4
<i>Picea sitchensis</i>	Sitkafichte	6,0-8,0	0,1-0,3
<i>Pieris floribunda</i>	Lavendelheide	4,5-6,0	0,2-0,4
<i>Pieris japonica</i>	Lavendelheide	4,5-6,0	0,2-0,4
<i>Pinus aristata</i>	Fuchsschwanzkiefer	6,0-8,0	0,2-0,4
<i>Pinus cembra</i>	Zirbelkiefer	6,0-8,5	0,1-0,3
<i>Pinus cembra glauca</i>	Blaue Zirbelkiefer	6,0-8,5	0,2-0,4
<i>Pinus cembra nana</i>	Zwergkiefer	6,0-8,0	0,2-0,4
<i>Pinus contorta</i>	Drehkiefer	6,0-8,0	0,2-0,4
<i>Pinus densiflora pumila</i>	Zwergkiefer	6,0-8,0	0,2-0,4
<i>Pinus flexilis glauca</i>	Kiefer	6,5-8,0	0,2-0,4
<i>Pinus koraiensis glauca</i>	Kiefer	6,5-8,0	0,2-0,4
<i>Pinus leucodermis</i>	Bosnische Kiefer	7,0-8,5	0,2-0,4
<i>Pinus mini mops</i>	Zwergkiefer	6,0-8,0	0,2-0,4
<i>Pinus monticola</i>	Kiefer	6,5-8,0	0,2-0,4
<i>Pinus mops</i>	Breitkiefer	6,0-8,0	0,2-0,4
<i>Pinus muquus</i>	Krummholzkiefer	6,0-8,0	0,2-0,4
<i>Pinus mugo gnom</i>	Zwergkiefer	6,0-8,0	0,2-0,4
<i>Pinus muqo montana</i>	Bergkiefer	6,0-8,0	0,1-0,3
<i>Pinus muqo pumilio</i>	Zwergkiefer	6,0-8,0	0,1-0,3
<i>Pinus nigra austriaca</i>	Österreichische Kiefer	6,0-8,5	0,1-0,3
<i>Pinus nigra select</i>	Kiefer	6,0-8,5	0,2-0,4
<i>Pinus parviflora glauca</i>	Blaue Mädchen Kiefer	6,5-8,0	0,2-0,4
<i>Pinus peuce</i>	Rumelische Kiefer	6,5-8,0	0,2-0,4
<i>Pinus pumila glauca</i>	Zwergkiefer	6,5-8,0	0,2-0,4
<i>Pinus schwerinii</i>	Kiefer	6,5-8,0	0,2-0,4
<i>Pinus sil. nana hibernica</i>	Zwergkiefer	6,0-8,0	0,2-0,4
<i>Pinus sil. waterer</i>	Silberkiefer	6,0-8,0	0,2-0,4

Botanic Name	German Name	pH-Value	AM-Value
<i>Pinus silvestris</i>	Gemeine Kieferföhre	6,0-8,5	0,1-0,3
<i>Pinus silvestris fastigiata</i>	Säulenkiefer	6,0-8,0	0,2-0,4
<i>Pinus silvestris glauca</i>	Kiefer	6,0-8,0	0,2-0,4
<i>Pinus strobus lilliput</i>	Zwergkiefer	5,5-7,0	0,2-0,4
<i>Pinus strobus radiata</i>	Zwergkiefer	5,5-7,0	0,2-0,4
<i>Pinus wall. densa hill</i>	Kiefer	5,5-7,0	0,2-0,4
<i>Pinus wallichiana</i>	Tränenkiefer	5,5-7,0	0,2-0,4
<i>Plantanus acerifolia</i>	Platane	7,0-8,5	0,1-0,3
<i>Polygonum aubertii</i>	Blätterknöterich	6,0-8,5	0,1-0,3
<i>Populus alba</i>	Silberpappel	6,5-8,5	0,1-0,3
<i>Populus balsamifera</i>	Balsampappel	6,5-8,0	0,1-0,3
<i>Populus berolinensis</i>	Lorbeerpappel	6,5-8,0	0,1-0,3
<i>Populus canescens</i>	Graupappel	6,0-8,0	0,1-0,3
<i>Populus lasiocarpa</i>	Graupappel	6,0-8,0	0,1-0,3
<i>Populus nigra</i>	Schwarzpappel	6,5-8,0	0,1-0,3
<i>Populus robusta</i>	Holzpappel	6,5-8,0	0,1-0,3
<i>Populus simonii</i>	Birkenpappel	6,0-8,0	0,1-0,3
<i>Populus tremula</i>	Zitterpappel-Espe	6,0-8,5	0,1-0,3
<i>Potentilla arbuscula</i>	Fünffingerstrauch	5,5-7,0	0,2-0,5
<i>Potentilla fruticosa</i>	Fünffingerstrauch	5,5-7,0	0,2-0,5
<i>Primula obconia</i>		5,5-7,0	0,3-0,4
<i>Primula vulg./acaulis</i>		5,5-6,5	0,2-0,4
<i>Prunus avium</i>	Pflaume	7,0-8,5	0,2-0,4
<i>Prunus avium</i>	Vogelkirsche	6,0-8,0	0,1-0,3
<i>Prunus cerasifera</i>	Blutpflaume	7,0-8,5	0,2-0,4
<i>Prunus cixtena</i>	Zierpflaume	7,0-8,5	0,2-0,4
<i>Prunus laurocerasus</i>	Immergrün-Hartriegel	6,5-7,0	0,2-0,4
<i>Prunus laurocerasus</i>	Otto Luyken	6,0-8,0	0,2-0,4
<i>Prunus mahaleb</i>	Weichselkirsche	7,0-8,5	0,1-0,3
<i>Prunus padus</i>	Traubenkirsche	6,0-8,0	0,1-0,3
<i>Prunus sargentii</i>	Zierpflaume	7,0-8,5	0,2-0,4
<i>Prunus serotina</i>	Späte Traubenkirsche	6,0-8,0	0,1-0,3
<i>Prunus serrula</i>	Zierpflaume	7,0-8,5	0,2-0,4
<i>Prunus serrulata</i>	Zierpflaume	7,0-8,5	0,2-0,4
<i>Prunus spinosa</i>	Schlehe	6,0-8,5	0,1-0,3
<i>Prunus subhirtella</i>	Zierpflaume	7,0-8,5	0,2-0,4
<i>Prunus tenella</i>	Zierpflaume	7,0-8,5	0,2-0,4
<i>Prunus triloba</i>	Zierpflaume	7,0-8,5	0,2-0,4
<i>Prunus yedoensis</i>	Zierpflaume	7,0-8,5	0,2-0,4
<i>Pseudosasa japonica</i>	Bambus	6,0-8,0	0,2-0,4
<i>Pseudotsuga menziesii</i>	Douglasie	5,5-7,0	0,1-0,3
<i>Pterocarya fraxinifolia</i>	Flügelnuß	6,0-8,0	0,2-0,4
<i>Pyracantha</i>	Feuerdorn	6,5-8,5	0,1-0,3
<i>Pyrus calleryana</i>	Birne	7,0-8,0	0,2-0,4
<i>Pyrus salicifolia</i>	Birne	7,0-8,5	0,1-0,3
<i>Quercus cerris</i>	Zerreiche	6,5-8,5	0,2-0,4
<i>Quercus coccinea</i>	Scharlacheiche	7,0-8,0	0,2-0,4
<i>Quercus frainetto</i>	Ungarische Eiche	6,0-8,0	0,2-0,4
<i>Quercus macranthera</i>	Persische Eiche	6,0-8,0	0,2-0,4
<i>Quercus palustris</i>	Sumpf-Eiche	6,0-7,5	0,1-0,3
<i>Quercus petraea</i>	Winter-Eiche	6,0-8,0	0,1-0,3
<i>Quercus pontica</i>	Kaukasus-Eiche	6,0-8,0	0,2-0,4
<i>Quercus pseudoturneri</i>	Wintergrüne Eiche	6,0-8,0	0,2-0,4
<i>Quercus robur</i>	Deutsche Eiche	6,0-8,0	0,1-0,3
<i>Quercus rubra</i>	Amerikanische-Roteiche	6,0-7,0	0,1-0,3
<i>Rhamnus catharticus</i>	Kreuzdorn-Faulbaum	7,0-8,5	0,1-0,3
<i>Rhamnus frangula</i>	Faulbaum-Pulverholz	6,0-8,0	0,1-0,3
<i>Rhododendron diamant</i>	Azaleen	4,0-5,5	0,2-0,4
<i>Rhododendron Gristeder</i>	Alpenrose	4,0-6,5	0,2-0,4
<i>Rhododendron Hybriden</i>	Alpenrose	4,0-6,5	0,2-0,4
<i>Rhododendron japanische</i>	Azaleen	4,0-5,5	0,2-0,4
<i>Rhododendron kosteranum</i>	Azalea mollis + pontica	4,0-5,5	0,2-0,4

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Rhododendron sommergrüne	Großblumige Azaleen	4,0-5,5	0,2-0,4
Rhododendron yakusimanum	Alpenrose	5,5-7,0	0,2-0,4
Rhododendron Zwergformen	Alpenrose	4,0-6,5	0,2-0,4
Rhus typhina	Essigbaum	6,0-8,0	0,1-0,3
Ribes alpinum	Johannisbeere	6,0-8,0	0,1-0,3
Ribes aureum	Gold-Johannisbeere	5,0-6,0	0,1-0,3
Ribes divaricatum	Stachelbeere	6,0-8,0	0,1-0,3
Ribes sanguineum	Stachelbeere	6,0-8,0	0,1-0,3
Robinia hispida	Scheinakazie	7,0-8,0	0,1-0,3
Robinia pseudoacacia	Scheinakazie	7,0-8,5	0,1-0,3
Rose blanda	Wildrosen	7,0-8,5	0,1-0,3
Rose canina	Hundsrose	6,5-8,5	0,1-0,3
Rose carolina	Sandrose	5,5-6,5	0,1-0,3
Rose glauca	Blaue Hechtrose	6,0-8,0	0,1-0,3
Rose multibrocteata	Wildrose	6,0-8,0	0,1-0,3
Rose multiflora	Wildrose	5,5-7,0	0,1-0,3
Rose nitida	Glanzrose	6,0-7,0	0,1-0,3
Rose pimpinellifolia	Dünenrose	7,0-8,5	0,1-0,3
Rose polyantha	Beetrosen	6,5-8,0	0,2-0,4
Rose polyantha	Edelrosen	6,5-8,0	0,2-0,4
Rose polyantha	Strauchrosen	6,5-8,0	0,1-0,3
Rose polyantha	Kletterrosen	6,5-8,0	0,2-0,4
Rose polyantha	Zwergbangalrosen	6,5-8,0	0,2-0,4
Rose rubiginosa	Zaunrose	7,0-8,5	0,1-0,3
Rose rugosa	Apfelrose	5,5-7,0	0,1-0,6
Rose rugotida	Zwergrose	5,5-6,5	0,1-0,3
Rosen - Freiland		5,5-7,0	0,2-0,4
Rosen - Haus		5,5-7,0	0,3-0,6
Rubus calycinoides	Teppich-Brombeere	6,0-8,0	0,2-0,4
Rubus fruticosus	Gemeine Brombeere	6,0-8,0	0,1-0,3
Rubus idaeus	Gemeine Himbeere	6,0-8,0	0,1-0,3
Rubus leucodermis	Himbeere	6,0-8,0	0,1-0,3
Rubus odoratus	Zimt-Himbeere	7,0-8,0	0,1-0,3
Rubus phoenicolasius	Japanische Weinbeere	7,0-8,0	0,1-0,3
Rubus tricolor	Japanische Weinbeere	5,5-7,0	0,2-0,4
Saintpaulia ionantha		5,0-6,5	0,3-0,5
Salix acutifolia	Weide	5,5-8,0	0,1-0,3
Salix alba	Trauerweide	5,5-8,0	0,1-0,3
Salix aurita	Ohrweide	5,5-7,0	0,1-0,3
Salix balsamifera	Gelbe Stein-Weide	6,0-8,0	0,1-0,3
Salix caprea	Salweide	4,0-8,0	0,1-0,3
Salix cinerea	Aschweide	5,5-7,0	0,1-0,3
Salix daphnoides	Reifweide	7,0-8,5	0,1-0,3
Salix purpurea	Korbweide	6,5-8,5	0,1-0,3
Salix purpurea nana	Kugelweide	6,5-8,5	0,1-0,3
Salix purpurea pendula	Hängeweide	6,5-8,0	0,1-0,3
Salix repens	Kriechweide	5,5-7,0	0,1-0,3
Salix rosmarinifolia	Rosmarinweide	6,0-8,0	0,1-0,3
Salix sekka	Drachenweide	5,5-7,0	0,1-0,3
Salix smithiana	Kübelerweide	5,5-6,5	0,1-0,3
Salix tortuosa	Zickzackweide	6,0-8,0	0,1-0,3
Salix viminalis	Hanfweide	6,0-8,5	0,1-0,3
Salix werhahnii	Engadinweide	6,0-8,0	0,1-0,3
Salvia splendens		6,0-7,0	0,4-0,6
Sambucus canadensis	Holunder	6,0-8,0	0,1-0,3
Sambucus nigra	Schwarzer Holunder	6,0-8,0	0,1-0,3
Sambucus racemosa	Trauben Holunder	6,0-7,0	0,1-0,3
Sansevieria		5,0-6,5	0,3-0,5
Sciadopitys verticillata	Schirmtanne	5,5-7,0	0,2-0,4
Selaquinella		4,5-5,5	0,3-0,5
Senecio Cineraria		5,5-6,5	0,4-0,6
Sequoiadendron giganteum	Mammutbaum	6,0-8,0	0,1-0,3

Botanic Name	German Name	pH-Value	AM-Value
<i>Sinarundinaria murilae</i>	Winterhafter Bambus	6,5-7,5	0,2-0,4
<i>Sinarundinaria nitida</i>	Halbrohrbambus	6,5-7,5	0,2-0,4
<i>Sinningia speciosa</i>		5,0-6,5	0,3-0,6
<i>Skimmia foremanii</i>	Skimmie	6,0-8,0	0,2-0,4
<i>Skimmia japonica</i>	japanische Skimmie	6,0-8,0	0,2-0,4
<i>Solanum pseudocaps.</i>		5,5-6,5	0,3-0,5
<i>Sophora japonica</i>	Schnurbaum	6,5-8,5	0,2-0,4
<i>Sorbaria sorbifolia</i>	Federspiere	6,0-8,0	0,1-0,3
<i>Sorbus americana</i>	Eberesche	6,0-8,0	0,2-0,4
<i>Sorbus aria</i>	Mehlbeere	6,0-8,0	0,1-0,3
<i>Sorbus aucuparia</i>	Gemeine Eberesche	6,0-8,0	0,1-0,3
<i>Sorbus edulis</i>	Eßbare Eberesche	6,0-8,0	0,1-0,3
<i>Sorbus fastigiata</i>	Säuleneberesche	6,0-8,0	0,1-0,3
<i>Sorbus intermedia</i>	Schwedische Mehlbeere	6,5-8,5	0,1-0,3
<i>Sorbus koehneana</i>	China Mehlbeere	7,0-8,0	0,2-0,4
<i>Sorbus lombarts hybriden</i>	China Mehlbeere	6,0-8,0	0,2-0,4
<i>Sorbus serotina</i>	China Mehlbeere	6,0-8,0	0,2-0,4
<i>Sorbus thuringiaca</i>	thüringische Säuleneberesche	6,0-8,0	0,2-0,4
<i>Sorbus vilmorinii</i>	Kübel-Eberesche	6,0-8,0	0,2-0,4
<i>Spirea albiflora</i>	Weiße Zwergspiere	6,0-8,0	0,2-0,4
<i>Spirea arguta</i>	Schneespiere	6,0-8,0	0,1-0,3
<i>Spirea decumbens</i>	Polsterspiere	6,0-8,0	0,2-0,4
<i>Spirea froebelii</i>	Kleine Spiere	6,0-8,0	0,1-0,3
<i>Spirea grefsheim</i>	Mittlere Spiere	6,0-8,0	0,1-0,3
<i>Spirea little princess</i>	Zwerg Spiere	6,0-8,0	0,1-0,3
<i>Spirea nipponica</i>	Hohe Spiere	6,0-8,0	0,1-0,3
<i>Spirea prunifolia</i>	Mittlere Spiere	6,0-8,0	0,1-0,3
<i>Spirea thunbergii</i>	Zwergspiere	6,0-7,0	0,2-0,4
<i>Spirea vanhouttei</i>	Prachtspiere	6,0-8,0	0,1-0,3
<i>Staphylea colchica</i>	Pimpernuß	6,0-8,0	0,2-0,4
<i>Statice fatarica</i>		6,0-7,0	0,3-0,4
<i>Stephanandra crispa</i>	Kranzspiere	5,5-6,5	0,1-0,3
<i>Stephanandra incisa</i>	Kranzspiere	6,0-7,0	0,2-0,4
<i>Stranvaesia davidiana</i>	Stanvaesie	6,0-8,0	0,2-0,4
<i>Strelitzien</i>		5,0-6,5	0,4-0,6
<i>Streptocarpus hybriden</i>		5,0-6,5	0,3-0,5
<i>Symporicarpus albus</i>	Schneebeere	6,0-8,0	0,1-0,3
<i>Symporicarpus orbiculatus</i>	Korallenbeere	6,0-8,0	0,1-0,3
<i>Syringia</i>		6,0-7,0	0,2-0,4
<i>Syringia chinensis</i>	Königsflieder	6,0-8,5	0,2-0,4
<i>Syringia josikaea</i>	Ungarischer Flieder	5,5-6,5	0,2-0,4
<i>Syringia microphylla</i>	Kleiner Strauchflieder	5,5-6,5	0,2-0,4
<i>Syringia reflexa</i>	Bogenflieder	5,5-6,5	0,2-0,4
<i>Syringia saugeana</i>	Roter Königsflieder	6,0-8,0	0,2-0,4
<i>Syringia swegiflexa</i>	Perlenflieder	5,5-6,5	0,2-0,4
<i>Syringia velutina</i>	Samtflieder	5,5-6,5	0,2-0,4
<i>Syringia vulgaris</i>	Gemeiner Flieder	6,0-8,5	0,1-0,3
<i>Tamarix odessana</i>	Sommer-Tamariske	6,0-8,5	0,1-0,3
<i>Tamarix parviflora</i>	Frühlings-Tamariske	7,0-8,5	0,1-0,3
<i>Tamarix pentandra</i>	Heide-Tamariske	7,0-8,0	0,1-0,3
<i>Taxodium distichum</i>	Sumpfzypresse	4,5-6,5	0,1-0,3
<i>Taxus bac. aureovariegata</i>	Eibe	6,0-8,5	0,2-0,4
<i>Taxus bac. dovastoniana</i>	Buschige Eibe	6,0-8,5	0,2-0,4
<i>Taxus bac. fast. aureomarg.</i>	Eibe	6,0-8,5	0,2-0,4
<i>Taxus bac. fastigiata</i>	Eibe	6,0-8,5	0,2-0,4
<i>Taxus bac. nis. präsident</i>	Eibe	6,0-8,5	0,1-0,3
<i>Taxus bac. nissens corona</i>	Eibe	6,0-8,5	0,1-0,3
<i>Taxus bac. overeynderi</i>	Eibe	6,0-8,5	0,1-0,3

Botanic Name	German Name	pH-Value	AM-Value
<i>Taxus bac. repandens</i>	Eibe	6,0-8,5	0,2-0,4
<i>Taxus bac. robusta</i>	Eibe	6,0-8,5	0,2-0,4
<i>Taxus bac. semperaurea</i>	Eibe	6,0-8,5	0,2-0,4
<i>Taxus bac. summergold</i>	Eibe	6,0-8,5	0,2-0,4
<i>Taxus bac. washingtonü</i>	Eibe	6,0-8,0	0,2-0,4
<i>Taxus baccata</i>	Gemeine Eibe	6,0-8,5	0,1-0,3
<i>Taxus cuspidata nan</i>	Ziergeibe	6,0-8,0	0,2-0,4
<i>Taxus media brownii</i>	Eibe	6,0-8,5	0,1-0,3
<i>Taxus media densiformis</i>	Eibe	6,0-8,5	0,1-0,3
<i>Taxus media farmen</i>	Eibe	6,0-8,5	0,1-0,3
<i>Taxus media hicksii</i>	Eibe	6,0-8,5	0,1-0,3
<i>Taxus media hillii</i>	Eibe	6,0-8,5	0,1-0,3
<i>Taxus media strait hedge</i>	Eibe	6,0-8,5	0,1-0,3
<i>Thijopsis dolobrata</i>	Hibalebensbaum	6,0-8,0	0,2-0,4
<i>Thuja occid. columna</i>	Lebensbaum	6,0-8,0	0,1-0,3
<i>Thuja occid. danica</i>	Lebensbaum	6,0-8,0	0,2-0,4
<i>Thuja occid. europagold</i>	Lebensbaum	6,0-8,0	0,2-0,4
<i>Thuja occid. holmstrup</i>	Lebensbaum	6,0-8,0	0,1-0,3
<i>Thuja occid. recurva nana</i>	Lebensbaum	6,0-8,0	0,1-0,3
<i>Thuja occid. rheingold</i>	Lebensbaum	6,0-8,0	0,2-0,4
<i>Thuja occid. smaragd</i>	Lebensbaum	6,0-8,0	0,1-0,3
<i>Thuja occid. sunkist</i>	Lebensbaum	6,0-8,0	0,2-0,4
<i>Thuja occid. tinny tim</i>	Lebensbaum	6,0-8,5	0,2-0,4
<i>Thuja occidentalis</i>	Abendländischer Lebensbaum	6,0-8,0	0,1-0,3
<i>Thuja orientalis aurea</i>	Lebensbaum	7,0-8,5	0,2-0,4
<i>Thuja plicata aurescens</i>	Lebensbaum	6,0-8,0	0,1-0,3
<i>Thuja plicata excelsa</i>	Lebensbaum	6,0-8,0	0,1-0,3
<i>Thuja standishii</i>	Lebensbaum	6,0-8,0	0,1-0,3
<i>Tilia americana</i>	Amerikanische Linde	6,0-8,0	0,2-0,4
<i>Tilia cordata</i>	Winter Linde	6,0-8,0	0,1-0,3
<i>Tilia euchlora</i>	Krim Linde	6,0-8,0	0,2-0,4
<i>Tilia intermedia</i>	Holländische Linde	6,0-8,0	0,2-0,4
<i>Tilia pallida</i>	Kaiser Linde	6,0-8,0	0,2-0,4
<i>Tilia platyphyllos</i>	Sommer Linde	6,0-8,0	0,2-0,4
<i>Tsuga canadensis</i>	Hermlockstanne	5,5-7,0	0,2-0,4
<i>Tsuga canadensis nana</i>	Tanne	5,5-7,0	0,2-0,4
<i>Tsuga canadensis pendula</i>	Tanne	5,5-7,0	0,2-0,4
<i>Tsuga heterophylla</i>	Tanne	6,0-8,0	0,1-0,3
<i>Ulmus carpinifolia</i>	Feld Ulme	6,5-8,5	0,1-0,3
<i>Ulmus glabra</i>	Berg Ulme	7,0-8,5	0,1-0,3
<i>Ulmus wredei</i>	Gold Ulme	6,0-8,0	0,2-0,4
<i>Vaccinium vitis idea</i>	Preiselbeere	4,5-6,0	0,2-0,4
<i>Vaccinium corymbosum</i>	Heidelbeere	4,5-6,0	0,2-0,4
Verbenen		5,5-6,5	0,3-0,5
<i>Viburnum bodnantense</i>	Winterschneeball	4,5-6,0	0,2-0,4
<i>Viburnum burkwoodii</i>	Winterschneeball	6,0-8,0	0,2-0,4
<i>Viburnum carcephalum</i>	Großblumiger Schneeball	6,0-7,5	0,2-0,4
<i>Viburnum cariesii</i>	Schneeball	6,0-7,5	0,2-0,4
<i>Viburnum davidii</i>	Schneeball	6,0-7,5	0,2-0,4
<i>Viburnum fragrans</i>	Duftschneeball	6,0-8,0	0,2-0,4
<i>Viburnum laetana</i>	Wolliger Schneeball	6,0-8,5	0,1-0,3
<i>Viburnum opulus</i>	Gemeiner Schneeball	6,0-8,5	0,1-0,3
<i>Viburnum plicatum</i>	Schneeball	6,0-8,0	0,2-0,4
<i>Viburnum rhytidophyllum</i>	Immergrüner Schneeball	6,0-8,5	0,1-0,3
<i>Vinca minor</i>	Immergrün	6,0-8,0	0,1-0,3
Viola-Freiland		6,0-7,0	0,1-0,3
Viola-Topfkultur		5,5-6,5	0,3-0,4
<i>Vriesea splendens</i>		4,5-5,5	0,2-0,4
<i>Weigela florida</i>	Weigelie	6,0-7,0	0,2-0,4

Botanic Name	German Name	pH-Value	AM-Value
Weigela purpurea	Weigelie	6,0-7,0	0,2-0,4
Wisteria sinensis	Blauregen	6,0-7,0	0,2-0,4
Zantadeschia-Calla		5,0-6,0	0,4-0,6
Zygocactus hybriden		5,0-6,5	0,3-0,5

Public Green Spaces:

Golf grass	5,5-6,0	0,2-0,4
Park lawn	5,5-6,5	0,1-0,3
Sports field grass	5,5-6,5	0,1-0,4
Ornamental lawn	5,5-6,0	0,2-0,4

Vegetables (in greenhouse):

Salad	6,0-7,5	0,3-0,5
Beans	6,0-7,5	0,3-0,5
Radish	5,5-7,5	0,3-0,5
Cauliflower	6,5-7,5	0,4-0,7
Cucumber	5,5-7,5	0,4-0,7
Turnip-cabbage	6,5-7,5	0,3-0,6
Parsley	6,0-7,5	0,4-0,5
Tomato	6,0-7,5	0,4-0,7

Vegetables (outside):

Salad	5,5-7,5	0,2-0,4
Cauliflower	6,5-7,5	0,3-0,5
Radish	5,5-7,0	0,2-0,5
Beans	6,0-7,5	0,2-0,4
Endive	6,0-7,5	0,3-0,4
Peas	6,0-7,5	0,2-0,3
Cucumber	5,5-7,5	0,3-0,5
Carrot	6,0-7,5	0,3-0,4
Turnip-cabbage	6,0-7,5	0,2-0,4
Sweet pepper	6,0-7,5	0,2-0,5
Parsley	6,0-7,5	0,2-0,4
Leek	6,0-7,5	0,2-0,5
Radish	5,5-7,0	0,2-0,3
Rhubarb	5,5-7,0	0,3-0,6
Brussels sprouts	6,0-7,5	0,2-0,5
Red cabbage	6,5-7,5	0,3-0,4
Celery	6,0-7,5	0,3-0,5
Asparagus (April until middle of June)	6,0-7,0	0,2-0,3
Asparagus (middle of June until August)	6,0-7,0	0,3-0,5
Spinach	5,5-7,5	0,2-0,4
Tomato	5,5-7,5	0,3-0,5
White cabbage	6,5-7,5	0,3-0,5
Savoy	6,0-7,5	0,2-0,4
Onion	6,0-7,0	0,2-0,4

Fruits:

Apple (top layer)	6,0-7,5	0,2-0,4
Apple (30-60 cm soil depth)	6,0-7,5	0,2-0,3
Apricot	6,0-7,0	0,2-0,4
Pear	5,0-7,5	0,2-0,4
Blackberry	6,0-7,5	0,2-0,4
Strawberry	6,0-7,0	0,2-0,4
Hazelnut	6,0-7,0	0,2-0,3
Blueberry	3,5-5,0	0,2-0,3
Red / Black currant	6,0-7,5	0,2-0,4
Sour cherry	6,0-7,0	0,2-0,4
Sweet cherry	6,0-7,5	0,2-0,4

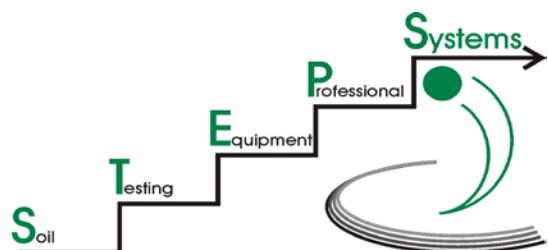
Botanic Name	German Name	pH-Value	AM-Value
Almond		6,0-8,0	0,1-0,3
Peach		6,0-7,5	0,2-0,4
Plum		6,0-7,5	0,2-0,4
Grape (top soil)		6,0-7,5	0,2-0,4
Grape (30-60 cm soil layer)		6,0-7,5	0,2-0,3
Gooseberry		6,0-7,5	0,2-0,4
Lemon		6,0-7,5	0,1-0,3

Tropical and Sub-Tropical Fruits:

Ananas	5,0-6,0	0,2-0,3
Orange, Lemon	6,0-7,5	0,3-0,5
Avocado	6,0-7,0	0,2-0,4
Banana	5,5-7,0	0,2-0,3
Cotton	5,0-6,0	0,2-0,4
Coffee	6,0-7,0	0,2-0,4
Rice	5,0-6,5	0,3-0,4
Soy beans	6,0-7,0	0,2-0,3
Tobacco	5,5-7,0	0,2-0,4
Tea	6,0-7,0	0,2-0,3
Sugar cane	6,0-8,0	0,3-0,5

Agricultural Plants:

Barley	6,5-7,5	0,2-0,4
Oat	5,5-7,0	0,2-0,4
Potato	5,0-6,5	0,2-0,5
Maize	5,5-7,5	0,3-0,5
Rye	5,5-7,0	0,2-0,3
Wheat	6,0-7,5	0,2-0,4
Sugar beet	6,0-8,0	0,3-0,5



Duisburger Str. 44
 Tel: ++49 (0) 911 96 26 05-0
 Fax: ++49 (0) 911 96 26 05-9
 D-90451 Nürnberg
 e-mail: info@stepsystems.de
www.stepsystems.de

STEP Systems GmbH
 Soil Testing Equipment - Professional Systems

Table for Optimal EC-Values

This EC-table can facilitate and make safer the fertigation. These concentration specific figures are needed for the conductivity controllers, as well as to control with hand-held instruments. The conductivity of the desired concentration is product-related and to be read from the table, and then added the irrigation water-EC-value. Then the sum of both conductivities is the value to be measured in the solution.

Deviations can indicate an error in the fertilization. Less known but very helpful is the measurement of the stock solution.

By means of checking the EC-value, a partially filled stock solution container can be refilled without weighing the container.

In order to meet these demands, it is necessary pay attention to the measuring range 0-2 EC, 0-20 EC and 0-200 EC.

All values were determined at 25 °C reference temperature. The tables are not complete and do not include all fertilizers.

Note: Urea has no conductivity.

No responsibility is taken for the correctness of the fertilizer concentrations given in the table.

Product:	Single nutrient content in %							EC in ready-to-use solution									
	Urea	total						Fertilizer solution			Stock solution						
		NO ₃	NH ₄	N	P ₂ O ₅	K ₂ O	MgO	Ca	0,5‰	1,0‰	1,5‰	2,0‰	1%	5%	10%	20%	liquid
Alkrikil	-	9,2	10,8	20	-	16	2	-	0,8	1,6	2,2	3,1	12	50	103	184	
Alkrisal	-	6,8	13,2	20	5	10	2	-	0,8	1,5	2,1	2,8	11	54	96	172	
Poly Crescal	-	3,8	10,2	14	10	14	2	-	0,8	1,4	2,1	2,7	9	46	85	150	
Poly Fertisal	-	1,0	7,0	8	14	18	4	-	0,8	1,4	2,0	2,6	9	40	73	122	

A lkumon	Hakaphos Grün	-	7	13	20	5	10	2	-	0,86	1,63	2,37	3,1	13,3	55,6	101	169	
	Hakaphos Blau	-	4,5	10,5	15	10	15	2	-	0,8	1,52	2,2	2,87	12,9	52,2	91,2	153	
	Hakaphos Rot	-	3	5	8	12	24	4	-	0,76	1,45	2,1	2,7	11,2	44,9	79,4	133	
	Hakaphos Gelb	-	8,6	11,4	20	-	16	1	-	0,8	1,53	2,23	2,9	12,8	53,8	97,4	168	
	Hakaphos soft Elite	-	13	11	24	6	12	2	-	0,76	1,45	2,1	2,7	12,8	54,9	99,2	170	
	Hakaphos soft Ultra	-	10,3	7,7	18	12	18	2,4	-	0,72	1,36	2	2,65	11,8	49,3	89	148	
	Hakaphos soft Spezial	-	9,7	6,3	16	8	22	3	-	0,7	1,37	2,03	2,64	11,7	49,3	88	147	
	Hakaphos soft Plus	-	7,6	6,4	14	6	24	3	-	0,75	1,45	2,14	2,77	12,1	50,3	89,9	152	
	Hakaphos soft Novell	-	7,5	3,5	11	11	30	3	-	0,67	1,27	1,89	2,48	10,8	45,2	79,7	135	
	Hakaphos soft Extra	-	7,3	2,7	10	20	30	2	-	0,6	1,15	1,7	2,24	9,9	41,3	73,3	120	
	Hakaphos basis 2	-	3	-	3	9	40	4	-	0,69	1,32	1,94	2,51	10,7	43,9	77,6	131	
	Hakaphos basis 3	-	3	-	3	15	36	4	-	0,67	1,28	1,88	2,4	10,3	41,4	71,5	120	
	Hakaphos basis 4	-	4	-	4	16	32	6	-	0,65	1,15	1,73	2,26	9,5	38	66,1	106	
	Hakaphos basis 5	-	4	1	5	20	30	5	-	0,61	1,15	1,68	2,19	9,3	37,8	64,8	101	
	NovaTec Solub 21	-	-	21	21	-	-	-	-	1	1,97	2,85	3,7	15,5	62,9	112	191	
	NovaTec Solub 20+5+10	-	5,8	14,2	20	5	10	1,3	-	0,86	1,62	2,42	3,14	13,4	54,2	99	170	
	NovaTec Solub 16+10+17	-	5	11	16	10	17	-	-	0,78	1,5	2,22	2,86	12,4	51,1	91,2	155	
	NovaTec 18 fluid	-	9	9	18	-	-	-	-	0,59	1,15	1,69	2,22	10,3	83,1	151		
	Kamasol brillant Grün	8,5	1,5	-	10	4	7	-	-	0,16	0,29	0,44	0,57	2,6	10,7	19,5	35,1	
	Kamasol brillant Blau	3,8	1,4	2,8	8	8	6	-	-	0,24	0,44	0,66	0,86	4	17,1	31,4	56,3	
	Kamasol brillant Rot	4	(1)	-	5	8	10	-	-	0,2	0,38	0,57	0,75	3,5	15,4	28,3	52	

E flor	Flory 1 MEGA	-	13	11	24	6	12	2	-	0,8	1,4	2,1	2,7	12	52	95	166	
	Flory 2 MEGA	-	11	5	16	6	26	3,4	-	0,7	1,3	2	2,6	11	47	85	146	
	Flory 3 MEGA	-	10	8	18	12	18	2	-	0,7	1,3	1,9	2,5	11	46	82	142	
	Flory 4 MEGA	-	7,4	2,6	10	20	30	2,7	-	0,6	1,1	1,7	2,2	9	39	70	118	
	Flory 5 Mega	-	8,4	2,7	11	11	33	2	-	0,7	1,3	1,9	2,5	112	46	82	139	
	Flory 6 MEGA	-	10	8	18	18	18	-	-	0,6	1,2	1,8	2,4	12	50	89	149	
	Flory 8 MEGA	-	10,4	7,6	18	-	22	3,3	-	0,7	1,4	2,1	2,7	13	53	95	163	
	Flory 1 (rot)	-	8,5	11,5	20	5	10	2	-	0,8	1,5	2,2	2,9	12	52	93	160	
	Flory 1 (spezial)	-	6	12	18	6	12	2	-	0,8	1,5	2,2	2,9	12	50	91	157	
	Flory 2 (blau)	-	8,5	6,5	15	5	25	2	-	0,7	1,4	2,1	2,7	12	48	87	150	
	Flory 2 (spezial)	-	10,5	5,5	16	9	22	4	-	0,7	1,3	2	2,6	11	46	83	141	
	Flory 3 (grün)	-	4,5	10,5	15	10	15	2	-	0,8	1,5	2,1	2,8	12	48	86	146	
	Flory 4 (weiß)	-	2,5	5,5	8	16	24	4	-	0,7	1,3	1,9	2,5	10	42	73	121	
	Flory 8 (NK)	-	11,6	8,4	20	-	16	1,5	-	0,8	1,5	2,3	3	13	52	95	165	
	Flory 9 (Hydro)	-	10	5	15	7	22	6	-	0,7	1,3	2	2,6	11	46	82	138	
	Flory Basis 1	-	-	-	-	14	38	5	-	0,6	1,3	1,9	2,5	10	40	71	117	
	Flory Basis 2	-	3	-	3	15	35	5	-	0,6	1,2	1,7	2,3	9,5	38	67	110	
	Flory Basis 3	-	2	-	2	11	39	4	-	0,6	1,3	1,9	2,5	10	42	74	122	
	Flory Basis 4	-	4	-	4	8	40	4	-	0,6	1,3	1,9	2,6	11	44	78	128	
	Flory Basis 5	-	4	1	5	20	30	5	-	0,5	1,1	1,6	2,1	9	36	63	105	
	Flory Basis 6	-	6	-	6	14	37	4	-	0,5	1,2	1,7	2,2	10	40	70	117	
	Flory Basis 7	-	0,8	3,20	4,00	16	32	6	-	0,6	1,2	1,7	2,2	10	37	65	107	
	Florymonid flüssig EC/I	-	9	9	18	-	-	-	-	0,6	1,2	1,8	2,4	10	45	85	159	

EC in ready-to-use solution
Fertilizer solution
Stock solution
Product:
Single nutrient content in %
total

	Urea	NO3	NH4	N	P2O5	K2O	MgO	Ca	0,5‰	1,0‰	1,5‰	2,0‰	1%	5%	10%	20%	liquid
Universol Basis	-	4	-	4	19	35	4,1	-	0,6	1,2	1,8	2,4	9,6	40,4	70,3	114	
Universol Violett	0,5	7	3	10	10	30	3,3	-	0,65	1,3	1,95	2,6	11,1	48,2	84,9	141	
Universol Gelb	0,4	3,1	8,9	12	30	12	2,2	-	0,6	1,2	1,8	2,4	9,9	41,4	71,7	117	
Universol Orange	0,4	10,5	5,3	16	5	25	3,4	-	0,7	1,4	2,1	2,8	12	52,6	93,2	157	
Universol Blau	0,5	10	7,7	18	11	18	2,5	-	0,65	1,3	1,95	2,6	11,6	50,7	90	152	
Universol Grün	0,4	11,7	11	23	6	10	2,7	-	0,75	1,5	2,25	3	12,8	56,3	101	170	
Universol Weiß	-	13,4	1,7	15	-	19	2	9	0,6	1,2	1,8	2,4	10,5	45,7	80,3	134	
Universol Spezial	0,4	8,2	-	9	3	39	3,5	-	0,65	1,3	1,95	2,6	10,1	43,7	76,3	124	
Universol Special 104	1,1	12	5,9	19	6	27	2,4	-	7	1,4	2,1	2,8	6,9	29,4	50,3	80	
Universol Special P	0,4	8,2	-	9	-	39	3,5	-	0,65	1,3	1,95	2,6	9,3	41,5	74,7	128	
Peters Professional Allrounder	13,1	4,5	2,4	20	20	20	0,7	-	0,4	0,8	1,2	1,6	9,5	40,6	71,7	117	
Peters Prof. Foliar Feed	20,5	3,6	2,9	27	15	12	0,8	-	0,3	0,6	0,9	1,2	9,3	40,1	70	114	
Peters Prof. Combi-Sol 6-18-36	-	6	-	6	18	36	3	-	0,55	1,1	1,65	2,2					
Peters Prof. Blossom Booster	-	5,2	4,8	10	30	20	2	-	0,5	1	1,5	2					
Peters Prof. Grow Mix	13,3	6,3	1,4	21	7	21	3	-	0,4	0,8	1,2	1,6					
Peters Professional Plant Starter	2,4	-	7,6	10	52	10	-	-	0,5	1	1,5	2					
Agrolution 114	-	10	-	10	100	40	-	-	0,7	1,4	2,1	2,8					
Agrolution 335	5,2	7,4	2,4	15	13	25	-	-	0,8	1,6	2,4	3,2					
Agrolution 316	2	11	0	13	5	28	2,5	2	0,65	1,3	1,95	2,6					
Agrolution 313	2,3	11,7	0	14	7	14	-	14	0,65	1,3	1,95	2,6					
Agrolution 324	3,2	10,6	0,2	14	8	22	2	5	0,7	1,4	2,1	2,8					
Agrolution 214	-	11,7	0,3	12	6	29	-	7	0,65	1,3	1,95	2,6					
Agrolution 125	1,1	5,9	-	7	14	35	3,5	-	0,65	1,3	1,95	2,6					
Solinure GT 1	-	9	1	10	5	39	2	-	0,7	1,4	2,1	2,8					
Solinure GT 2	-	7	-	7	19	38	2	-	0,55	1,1	1,65	2,2					
Solinure GT 3	1,8	8,1	2,1	12	5	35	2	-	0,7	1,4	2,1	2,8					
Solinure GT 4	-	6,1	7,9	14	6	23	2	-	0,7	1,4	2,1	2,8					
Solinure GT 5	10,3	5,9	3,8	20	20	20	-	-	0,45	0,9	1,35	1,8					
Solinure GT 8	20,8	1	1,2	23	10	10	5,6	-	0,35	0,7	1,05	1,4					
Solinure GT 9	-	2,1	8,9	11	35	11	2	-	0,6	1,2	1,8	2,4					

pH stabilisierend für weiches Wasser in einer Stammlösung

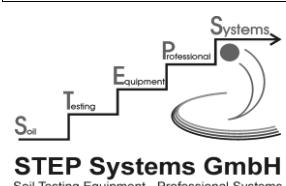
Peters Excel CalMag Grower	2,5	10,2	1,3	14	6	14	2,5	6,5	0,5	1	1,5	2	10,6	45,8	76,5	130	
Peters Excel CalMag Finisher	1,8	10,2	-	12	6	20	2	6,5	0,5	1	1,5	2	10,7	46,4	80,3	131	
Universol Soft Water 312R	1,2	12,3	5	18	7	12	2	6	0,6	1,2	1,8	2,4					
Universol Soft Water 113R	1,2	10	0,1	11	11	31	2	2	0,55	1,1	1,65	2,2					
Universol Soft Water 213R	-	11,9	2,4	11	7	22	2	5	0,6	1,2	1,8	2,4					

pH stabilisierend für hartes Wasser in einer Stammlösung

Peters Excel Hard Water Grow Special	4,2	10,3	3,5	18	10	18	2	-	0,5	1	1,5	2	12	40,3	70,9	118	
Peters Excel Hard Water Finisher	3,9	8,9	1	14	10	26	2	-	0,45	0,9	1,35	1,8	11,1	38	66,6	110	
Peters Excel Extra Acidifier	6,1	8,9	0	15	15	25	0,9	-	0,4	0,8	1,2	1,6	11,7	40,3	70,9	118	
Universol Hard Water 211	4	11,2	8,2	23	10	10	2	-	0,65	1,3	1,95	2,6					
Universol Hard Water 225	4	5,8	1,8	11	10	28	2	-	0,6	1,2	1,8	2,4					

Gabi Plus N	15	6	6	27	-	-	-	-	0,4	0,9	1,3	1,7	8	33	61	108	173
Gabi N Super	15	6	6	27	-	-	1	-	0,4	0,8	1,2	1,7	8	33	61	108	157
Gabi Plus P	-	-	-	-	20	-	-	-	0,1	0,3	0,4	0,6	2	10	18	31	62
Gabi Plus K	-	-	-	-	-	20	-	-	0,4	0,6	0,9	1,2	6	26	48	89	
Gabi Plus Mg	-	-	-	-	-	-	8	-	0,3	0,6	0,8	1,1	5	21	39	69	155
Gabi Plus SinPhos Ca	3	-	-	3	-	-	-	15	0,5	0,9	1,3	1,7	7	32	57	99	163
Gabi Plus N-K	13	-	-	13	-	11	-	-	0,2	0,4	0,5	0,7	3	15	28	51	119
Gabi Plus P-K	-	-	-	-	13	14	-	-	0,2	0,4	0,6	0,8	3	15	27	49	137
Gabi Hydro	-	2	2	4	2	5	0,5	-	0,2	0,4	0,6	0,8	4	17	31	57	191
Gabi Plus D	-	2	2	4	2	5	0,5	-	0,2	0,4	0,6	0,8	4	17	31	56	184
Gabi Plus 6-12-6	5	1	-	6	12	6	-	-	0,2	0,4	0,5	0,7	3	13	24	41	101
Gabi Plus Super	5	1,5	1,5	8	8	6	-	-	0,2	0,4	0,6	0,8	3	14	26	46	126
Gabi Plus Standard	9	1	-	10	4	7	-	-	0,1	0,2	0,3	0,4	2	9	17	31	88
Gabi Plus 12-8-11	11	1	-	12	8	11	0,5	-	0,2	0,4	0,5	0,7	3	13	25	42	93
Gabi Plus 5	12	1	-	13	3	7	1	-	0,2	0,3	0,4	0,6	3	11	21	36	89
Gabi Plus Z	14	1	-	15	4	7	-	-	0,1	0,2	0,3	0,4	2	9	17	30	72

Schwefels.Ammoniak	-	-	-	21	-	-	-	-	1,0	1,9	2,8	3,7	17	63	109	186	
Kalisulfat	-	-	-	-	50	-	-	-	1,0	1,7	2,4	3,4	14	54	97		
Monokaliumphosphat	-	-	-	-	52	34	-	-	0,5	0,8	1,2	1,6	7	28	47	78	
Kalksalpeter	-	14,5	1,0	16	-	-	-	-	0,6	1,1	1,6	2,1	11	42	66	103	



Duisburger Str. 44
D-90451 Nürnberg
Tel: ++49 (0) 911 96 26 05-0
Fax: ++49 (0) 911 96 26 05-9
e-mail: info@stepsystems.de
www.stepsystems.de

Product:**Single nutrient content in %****EC in ready-to-use solution
Fertilizer solution
Stock solution**

	Urea	total				0,5%	1,0%	1,5%	2,0%	1%	5%	10%	20%	liquid	
		NO3	NH4	N	P2O5	K2O	MgO	Ca							
Plantaaktiv Azal 412	-	13,2	10,8	24	6	12	2	-	0,8	1,5	2,2	2,8			
Plantaaktiv Azal 312	-	6	12	18	6	12	2	-	0,8	1,5	2,2	2,8			
Plantaaktiv Typ K	-	11	5	16	6	26	3,3	-	0,7	1,4	2	2,6			
Plantaaktiv Typ A	-	10	8	18	12	18	2	-	0,7	1,4	2	2,6			
Plantaaktiv Typ B	-	7,4	2,6	10	20	30	2,6	-	0,6	1,2	1,8	2,4			
Plantaaktiv Typ NK	-	10,4	7,6	18	-	22	3,3	-	0,8	1,5	2,2	2,9			
Plantaaktiv Typ Hydro	-	10	5	15	7	22	6	-	0,7	1,4	2	2,6			

Manna LIN ACIDIC	5,7	8,8	3,5	18	14	18	2	-	0,7	1,35	1,95	2,55			
Manna LIN ACIDIC K Plus	-	7,5	4,5	12	14	28	2	-	0,75	1,45	2,1	2,72			
Manna LIN BASIS	-	3	-	3	19	35	3	-	0,5	1,2	1,7	2,3	10	41	72
Manna LIN K spezial	-	13	6	19	5	25	2	-	0,7	1,3	1,94	2,56	13	50	91
Manna LIN M spezial	-	11	7	18	12	18	2	-	0,65	1,25	1,83	2,42	13	51	150
Manna LIN A spezial	-	13	11	24	5	11	3	-	0,66	1,26	1,88	2,45			
Manna LIN B spezial	-	7	5	12	12	24	4	-	0,64	1,22	1,77	2,31			
MANNA LIN K Plus	-	7,2	2,8	10	10	30	3	-	0,71	1,34	1,99	2,56			
Manna LIN K	-	8,3	6,5	15	5	25	2	-	0,75	1,49	2,28	2,94			
Manna LIN M	-	4,5	10,5	15	10	15	2	-	0,7	1,35	1,98	2,58	13	51	92
Manna LIN A	-	7	13	20	5	10	2	-	0,6	1,2	1,8	2,3	13	51	136
Manna LIN B	-	2,5	5,5	8	12	24	4	-	0,64	1,22	1,77	2,31			
Manna Lin Soft A	3	11,5	4,5	19	10	15	-	5	0,75	1,43	2,14	2,78			
Manna Lin Soft K	1,25	12,3	0,5	14	5	32	-	5	0,69	1,33	1,96	2,6			
Manna LIN F	2,4	2,5	3,1	8	8	6	-	-	0,24	0,52	0,66	0,93	4	16	28
Manna LIN Protekt	3	-	-	3	27	18	-	-	0,21	0,4	0,6	0,79			
Wuxal Top N	12	-	-	12	4	6	-	-	0,1	0,2	0,3	0,4	2	12	15
Wuxal Super	2	2,3	3,7	8	8	6	-	-	0,3	0,5	0,8	1	4	18	33
Wuxal P-Profi	-	-	5	5	20	5	-	-	0,3	0,55	0,81	1,05			
Wuxal Top K	-	1	4	5	8	12	-	-	0,27	0,51	0,77	0,99			
Wuxal Calcium	1,5	8,5	-	10	-	-	2	15	0,42	0,88	1,16	1,5			
Wuxal Microplant	3,6	-	1,4	5	10	-	-	-	0,27	0,53	0,75	0,98			
Fertisal 20-5-10	-	7	13	20	5	10	2	-	0,75	1,44	2,08	2,72			
Fertisal 8-12-24	-	2,5	5,5	8	12	24	4	-	0,64	1,22	1,77	2,31			
Fertisal 15-10-15	-	4,5	10,5	15	10	15	2	-	0,7	1,35	1,98	2,58			
Multi KMG spritzfähig	-	12	-	12	-	43	2	-	0,56	1,09	1,81	2,42	7,5	42	73
Multi K Kaliumnitrat	-	13	-	13	-	46	-	-	0,55	1,1	1,54	2,15	10	47	86
Haifa MAP	-	-	12	12	61	-	-	-	0,35	0,66	0,96	1,24	5,9	27	46
Haifa MKP	-	-	-	-	53	34	-	-	0,4	0,73	1,08	1,4	6,6	30	54
MAGNISAL	-	11	-	11	-	-	16	-	0,4	0,75	1,1	1,45	6,8	29	50

Ferty 1 MEGA	-	13	11	24	6	12	2	-	0,8	1,5	2,2	2,8	13	56	101	174
Ferty 2 MEGA	-	11	5	16	6	26	3,4	-	0,7	1,4	2	2,6	12	50	91	152
Ferty 3 MEGA	-	10	8	18	12	18	2	-	0,7	1,4	2	2,6	12	49	88	149
Ferty 4 MEGA	-	7,4	2,6	10	20	30	2,7	-	0,6	1,2	1,8	2,4	10	41	73	122
Ferty 6 MEGA	-	10	8	18	18	18	-	-	0,7	1,3	1,9	2,5	11	46	84	145
Ferty 8 MEGA	-	10,4	7,6	18	-	22	3,3	-	0,7	1,5	2,2	2,8	13	53	95	163
Ferty 1 Rot	-	8,5	11,5	20	7	10	2	-	0,8	1,5	2,3	3	13	54	96	164
Ferty 2 Blau	-	8,5	6,5	15	5	25	2	-	0,7	1,4	2,1	2,7	13	53	93	159
Ferty 3 Grün	-	4,5	10,5	15	10	15	2	-	0,8	1,5	2,2	2,9	12	52	90	153
Ferty 4 Weiß	-	2,5	5,5	8	16	24	4	-	0,7	1,3	1,9	2,5	11	42	76	129
Ferty 5	-	0,1	5,9	6	36	20	2	-	0,6	1,1	1,6	2,1	9	35	60	99
Ferty 6	-	1,1	8,9	10	40	10	2	-	0,6	1,1	1,6	2,1	9	36	61	100
Ferty 8	-	9,2	10,8	20	-	16	2	-	0,8	1,6	2,4	3,1	14	59	106	183
Ferty 9	-	10	5	15	7	22	6	-	0,7	1,3	2	2,6	11	48	85	140
Ferty Hydrangea	-	14,7	2,8	17,5	-	18	-	11	0,7	1,3	1,9	2,5	11,5	49	87	
Ferty Primula	-	9,5	2	11,5	10	35	2	-	0,7	1,3	1,9	2,5	11	47	74	143
FERTIPLANT Universal	10,2	5,8	4	20	20	20	-	-	0,5	0,9	1,4	1,8				
FERTIPLANT Blattgrün Booster	26	1	3	30	10	10	-	-	0,3	0,6	0,9	1,1				
FERTIPLANT Orchids	11	5,8	3,2	20	14	20	2	-	0,5	1	1,5	2				
FERTIPLANT Phalenopsis	7	7,6	2,4	17	12	26	2	-	0,5	1,1	1,6	2,1				
FERTIPLANT Jungpflanzenstarter	-	1,4	8,6	10	52	10	-	-	0,5	0,9	1,3	1,7				
FERTIPLANT Phosphor-Booster	-	6,7	8,3	15	30	15	-	-	0,6	1,1	1,7	2,2				
FERTIPLANT Topfpflanzen Spezial	-	10,5	4,5	15	15	30	-	-	0,6	1,2	1,8	2,4				

Product:

Single nutrient content in %

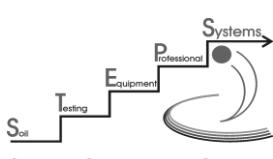
EC in ready-to-use solution

Fertilizer solution

Stock solution

Planta		total															
	Urea	NO3	NH4	N	P2O5	K2O	MgO	Ca	0,5‰	1,0‰	1,5‰	2,0‰	1%	5%	10%	20%	liquid
FERTIPLANT 10+20+30	-	5,9	4,1	10	20	30	-	-	0,7	1,3	1,9	2,4					
FERTIPLANT Blütenwunder	-	3,5	6,5	10	30	20	1	-	0,6	1,2	1,7	2,2					
Ferty Basis 1	-	-	-	-	14	38	5	-	0,6	1,2	1,8	2,3	9,5	38	60	91	
Ferty Basis 2	-	3	-	3	15	35	5	-	0,6	1,2	1,7	2,2	9	37	58	89	
Ferty Basis 3	-	2	-	2	11	39	4	-	0,7	1,4	2,1	2,7	10	38,5	68	106	
Ferty Basis 4	-	4	-	4	8	40	4	-	0,6	1,4	1,9	2,6	9,5	38	62	110	
Ferty Basis 5	-	4	1	5	20	30	5	-	0,5	1,1	1,6	2,2	9	36	60	100	
Ferty Basis 6	-	6	-	6	14	37	4	-	0,5	1,2	1,7	2,3	9,5	40	72	120	
Ferty Basis 7	-	0,8	3,2	4	16	32	6	-	0,6	1,4	1,9	2,6	10	42	74	124	
Fertiplant Acid 12+7+24 weich	-	12	-	12	7	24	2	7	0,7	1,3	1,9	2,5	44	76	125		
Fertiplant Acid 15+10+15 weich	-	11,8	3,2	15	10	15	2	7	0,7	1,3	1,9	2,5	44	93	125		
Fertiplant Acid 16+10+25 hart	-	11,2	4,8	16	10	25	2	-	0,7	1,4	2	2,7	48	85	143		
Fertiplant Acid 19+10+19 hart	-	11,8	7,2	19	10	19	2	-	0,8	1,5	2,2	2,9	53	94	160		
Agriplant 1	-	6,8	13,2	20	5	10	2	-	0,8	1,6	2,3	3	90	153			
Agriplant 2	-	4	8	12	5	24	2	-	0,9	1,7	2,4	3,1	93	157			
Agriplant 3	-	2,5	11,5	14	10	14	2	-	0,8	1,6	2,3	3	89	149			
Agriplant 3S	-	5,2	9,8	15	15	15	2	-	0,7	1,4	2,1	2,8	81	136			
Agriplant 4	-	2,5	5,5	8	14	25	3	-	0,7	1,4	2,1	2,7	80	132			
Agriplant 5	-	7,5	11,5	19	-	15	2	-	0,9	1,7	2,4	3,1	102	175			
Agriplant 6	-	10,5	4,5	15	5	30	2	-	0,7	1,4	2	2,6	81	136			
Agriplant 7	-	3,8	2,2	6	12	36	2	-	0,7	1,4	2	2,6	80	135			
Agriplant 7S	-	10,1	1,9	12	10	36	2	-	0,6	1,3	1,9	2,51	12	49	87	145	
Agriplant 8	-	0,8	9,2	10	40	10	2	-	0,6	1,1	1,6	2,1	61	100			

Terraflor	Formel 1 / De Weert 1	-	-	-	16	3	4	-	-	0,5	1,0	1,4	1,8				
	Formel 2 / De Weert 2	-	-	-	10	4	7	-	-	0,2	0,4	0,6	0,8				
	Formel 3 / De Weert 3	-	-	-	9	0	7	-	-	0,2	0,3	0,4	0,6				
	Formel 5 / De Weert 5	-	-	-	5	10	15	-	-	0,3	0,6	0,9	1,2				
	Formel 6 / De Weert 6	-	-	-	0	15	5	-	-	0,2	0,3	0,5	0,6				
	Terraflor-AZ	-	4	-	4	-	14	2	-	0,4	0,7	1,1	1,5	6	23	38	60

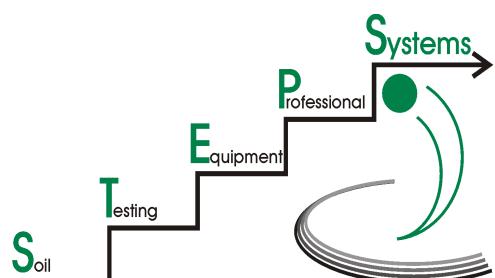


STEP Systems GmbH
Soil Testing Equipment - Professional Systems

Duisburger Str. 44
D-90451 Nürnberg
9 (0) 911 96 26 05-0
9 (0) 911 96 26 05-9
o@stepsystems.de
www.stepsystems.de

Salt toleration of plants

Degree of salt toleration	Plants	EC value for substrates (ratio 1:5; substrate:water)	Max. EC value of irrigation water, per mil = tolerable concentration of fertilisation	Acceptable carbonate hardness
very salt sensitive plants	Orchids, Nephrolepis Bromelia, seedlings Propagation, Azalea, Erica, Calluna	0,2 - 0,3	up to 0,63 EC → 0,25 per mil up to 0,47 EC → 0,50 per mil up to 0,31 EC → 0,75 per mil up to 0,16 EC → 1,00 per mil	5
salt sensitive plants	Azalea, Erica, Araceen, all types of young plants	0,4 - 0,6	up to 0,78 EC → 0,25 per mil up to 0,63 EC → 0,50 per mil up to 0,47 EC → 0,75 per mil up to 0,31 EC → 1,00 per mil up to 0,16 EC → 1,50 per mil	10
not strongly salt sensitive plants	Begonia, Cyclamen, Freesia, Gerbera, Roses	0,8 - 1 ,0	up to 1,00 EC → 0,25 per mil up to 0,78 EC → 0,50 per mil up to 0,63 EC → 0,75 per mil up to 0,47 EC → 1,00 per mil up to 0,31 EC → 1,50 per mil	10 up to max. 15
plants tolerating higher salt concentration	Chrysanthemum, Carnations	1 ,5 - 2 ,0	up to 1,56 EC → 0,25 per mil up to 1,25 EC → 0,50 per mil up to 0,94 EC → 0,75 per mil up to 0,63 EC → 1,50 per mil up to 0,47 EC → 1,50 per mil	15

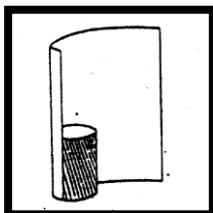


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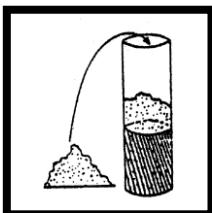
Duisburger Str. 44
Tel: ++49 (0) 911 96 26 05-0
Fax: ++49 (0) 911 96 26 05-9
D-90451 Nürnberg
e-mail: info@stepsystems.de
www.stepsystems.de

Determination of substrates' salinity

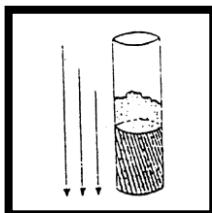
1. Take a representative substrate sample
2. Thoroughly stir the substrate in order homogenise the sample
3. Determination of salinity in homogenised sample (see icons 1-8)



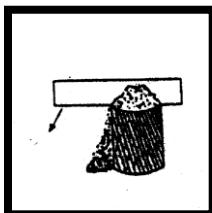
(1) Cylindrically enwrap the enclosed 100 ml measuring cup with a firm DIN-A4-sheet of paper.



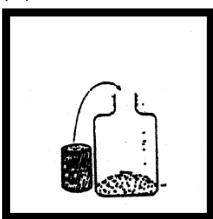
(2) Fill sample loosely above the top of the cup.



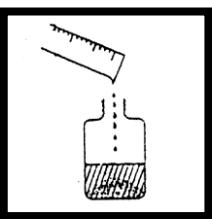
(3) To compress sample toss the cup 10x on a solid surface.



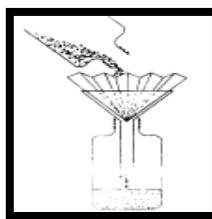
(4) Remove paper and surmounting sample.



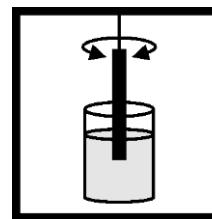
(5) Fill measured 100 ml sample in 1-ltr-wide-necked-bottle.



(6) Add 500 ml distilled water, close bottle and shake several times.



(7) Filter the mixture after 10 min. with fluted filter.



(8) Measure conductivity in filtrate.

1. Calculation of salinity:

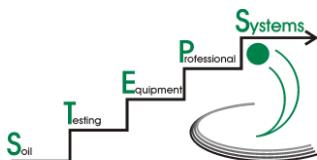
$$\text{Conductivity (in mS)} \times 0,528 \times 5 = \text{salinity in g/ltr. substrate}$$

E.g.: A EC-measurement of 0,37 mS (= 370 µS) results in a salinity of:

$$0,37 \times 0,528 \times 5 = 977 \text{ mg salt/l substrate}$$

2. Benchmarks:

Substrates for salt-sensitive cultures, piquet substrates	500 – 1000 mg/ltr.
Substrates for less sensitive cultures, pot substrates	1000 – 2000 mg/ltr.
Substrates for salt compliant cultures, e.g. chrysanthea	2000 – 3000 mg/ltr.



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Fax: ++49 (0) 911 96 26 05-9
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e-mail: info@stepsystems.de
www.stepsystems.de



STEP Systems GmbH
Duisburger Str. 44
90451 Nürnberg
Germany

Tel.: +49 911 9626050
Fax: +49 911 9626059

E-Mail: info@stepsystems.de
Internet: www.stepsystems.de