

PURCHASE CONTRACT
KINETIC FLUOROMETER

SELLER

Name **Heinz Walz GmbH**
Registered office Eichenring 6, 91090 Effeltrich, Germany...
Comp. ID No (IČO) ZH: HRB 1885 Tax ID No (DIČ) DE811254730
Represented by Mr Steffen Walz and Mr Harald Walz

AND

BUYER

Name **Global Change Research Institute CAS**
Registered office Bělidla 986/4a, Brno, post code 603 00, Czech Republic
Comp. ID No (IČO) 86652079 Tax ID No (DIČ) CZ86652079
Registered at Register of public research institutions
Represented by prof. RNDr. Ing. Michal V. Marek, DrSc., dr. h. c., Director

Pursuant to section 2079 of Civil Code, the above parties conclude a contract of the following wording:

I. SUBJECT MATTER OF CONTRACT

1. The seller undertakes that it will hand over the item which is subject matter of purchase to the buyer and that it will enable the buyer to gain the ownership right for it and the buyer undertakes to take the item over and to pay the purchase price to the seller.
2. The seller also undertakes to hand the documents related to the item to the buyer, to proceed with installation of the item (either at the address specified by the buyer, or to arrange the installation training at the sellers place), to carry out servicing of the item, and to carry out training of operation and maintenance of the item.

II. SUBJECT MATTER OF PURCHASE

1. The subject matter of the purchase is delivery of a kinetic fluorimeter with an excitation wavelength range of 400 - 725 nm. The accessories to be supplied with the object of purchase include, but are not limited to, a water bath connection module, a mixer, a sensor for calibration of light intensities, a necessary connection and installation material, and a control computer.
 2. The subject matter of purchase will fulfil technical parameters, which are listed in Annex no. 1 of this Contract.
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3. Other accessories for the subject matter of purchase are listed in Annex no. 1 of this Contract.
4. The subject matter of purchase will be handed over in accordance with the following documents (arranged according to how binding they are):
 - a) This contract
 - b) Written instructions from the buyer
 - c) Technical standards relating to the materials and activities performed on the basis of this contract
5. The subject matter of contract will be supplied calibrated by the manufacturer.
6. Together with the subject matter of purchase, the seller will also hand over to the buyer the documents necessary for takeover and use of the subject matter of purchase. These documents include mainly the following:
 - a) Technical standards relating to the materials and activities performed on the basis of this contract.
 - b) Detailed guides or handbooks and manuals to use the object of purchase.
 - c) Detailed guides or handbooks and manuals to maintain the object of purchase.
 - d) Calibration lists/sheets

The documents will be prepared in Czech or English language.
7. The seller undertakes to perform servicing of the subject matter of purchase during the guarantee period.
8. The seller undertakes to arrange training for installation, maintenance and servicing of the item of purchase. The training will take place for at least 6 hours, either at the address specified by buyer or at the seller's place. In the case of training at the seller's premises, the seller will provide free of charge an accommodation (for at least one night before the training) and food during the training period to the trained persons of the buyer (max. 2).

III. HANDOVER OF SUBJECT MATTER OF PURCHASE

1. The complete and defect free subject matter of purchase will be handed over latest within **7 weeks of signing of this contract.**
2. Earlier fulfilment is possible.
3. Shipment condition: **Drásov 470, 664 24 Drásov, Czech Republic**, unless the parties agree otherwise.
4. If the seller delivers a larger number of items than agreed, the purchase contract is concluded also for the excess amount, provided that the price of the excess amount is included in the total purchase price
5. The seller undertakes to hand the subject matter of purchase over unused and without any legal or material defects.
6. The effects of handover of the item do not occur before the moment when the buyer is enabled to handle the item at the place of its handover.
7. Latest within 5 working days from the day on which the subject matter of purchase is handed over, the buyer will inspect it and check its apparent properties and quantity. Within the same deadline, the buyer will either confirm takeover of the subject matter of purchase or state its objections concerning the quantity and apparent properties of the subject matter of purchase. If the buyer neither confirms takeover of the subject matter of purchase nor states its

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objections concerning the quantity and apparent properties of the subject matter of purchase, it is understood that the buyer took the subject matter of purchase over and that it does not have any objections concerning its apparent properties and quantity.

8. Fulfilment cannot be refused, not even in case when the conditions specified in section 1912 (1) of Civil Code are fulfilled (mutual fulfilment).

IV. PURCHASE PRICE

1. The purchase price for fulfilment according to this contract was agreed **921.130,57 CZK excluding VAT**.
2. The price is agreed as the highest permissible price including all the costs of the seller connected with fulfilment of this contract and price influence during fulfilment of this contract.
3. The price includes also shipping and packing costs.
4. VAT at the statutory amount will be added to the price excluding VAT.

V. PAYMENT TERMS

1. The price for delivery of the subject matter of purchase and performing of service will be paid on the basis of one invoice, unless specified otherwise by the buyer. An annex to the invoice will be a copy of the confirmation that the subject matter of purchase was handed over.
2. All invoices will have a regular tax document.
3. The due date of all the invoices is 25 days after the day on which the invoice is issued.
4. Within the due date, the buyer is entitled to return an invoice containing mistakes. The seller is obliged to submit a new or corrected invoice with a new due date.
5. The seller is obliged to deliver the invoice to the address of the registered office of the buyer latest within 5 working days after the takeover of the subject matter of purchase is confirmed.
6. The invoice is paid on the day when the corresponding price is charged off the buyer's account.
7. No advance is provided. No deposit is provided.

VI. QUALITY GUARANTEE AND COMPLAINTS CONCERNING DEFECTS

1. The seller provides quality guarantee for the subject matter of purchase. For the whole guarantee period, the subject matter of purchase:
 - a) Will be fit for using for the purpose specified in this contract.
 - b) Will be fit for using for the usual purpose.
 - c) Will retain its usual properties.
 2. The seller provides **quality guarantee** for a period of **24 months**.
 3. The guarantee period will start to run on the day when the takeover of the subject matter of purchase is confirmed. The guarantee period is extended by the time starting on the day when a complaint is made and finishing on the day when the defect is rectified.
 4. The buyer is not in delay with claiming a defect if the buyer claims the right arising from the defect which the subject matter of fulfilment has at the moment of its handover and arising from the defect under guarantee in writing within 30 days from the day when the buyer finds out about the defect.
 5. The seller is not in delay with the defect rectification if without any unnecessary delays after the defect has been claimed the seller starts to perform activities aimed at the defect
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rectification, continues this activities duly and **latest within 4 weeks after the defect is claimed** the defect will be rectified or the subject matter of purchase will be replaced with a defect free product.

VII. INTERESTS ON OVERDUE PAYMENTS AND CONTRACTUAL PENALTIES

1. The party which is in delay with payment of its debt can be asked by the other party, if it fulfils duly its contractual and statutory obligations, to pay an interest on overdue payment, unless the party which is overdue is not responsible for the delay. The parties agree an **interest on overdue payment** at the amount of **0.010 % of the due amount per day**.
2. The buyer will charge a **contractual penalty** at the amount of **CZK 1.800 per day** in the following cases:
 - a) Delay of the seller with handover of the subject matter of purchase.
 - b) Delay with rectification of a defect which the subject matter of purchase has at the moment of its handover.
 - c) Delay with rectification of a defect under guarantee.
3. A separate invoice will be issued for the contractual penalty with the due date of 30 days. The day of taxable supplies is considered to be the day on which the invoice is issued.
4. The parties agree that the obligation to pay a contractual penalty does not affect the right for damage compensation at the amount at which it exceeds the contractual penalty. If a contractual penalty is decreased by the court, the right for damage compensation remains the amount at which the damage exceeds the amount determined by the court as adequate and without any other limitations.

VIII. CONTRACT TERMINATION

1. The contract can be terminated by a written agreement.
2. The buyer can withdraw from the contract if it is breached grossly by the seller. A gross breach of the contract is also considered the following:
 - a) Delay of the seller with handover of the subject matter of purchase by more than 30 days.
 - b) Commencement of bankruptcy proceedings in which the seller is in the position of the debtor.
 - c) If it is found out that the bid of the seller connected with the public contract included incorrect information.
3. The seller can withdraw from the contract if it is breached grossly by the buyer. A gross breach of the contract is also considered the following:
 - a) Commencement of bankruptcy proceedings in which the buyer is in the position of the debtor.
 - b) Delay of the buyer with payment of an invoice by more than 30 days.
4. Withdrawal must be made in writing and it is effective on the day when it is delivered to the other party.
5. Withdrawal from the contract does not result in cessation of the mutual sanction liability of the parties.

IX. RESPONSIBLE PERSONS OF THE PARTIES

1. The representative of the buyer is Mgr. Tomáš Zavřel, Ph.D., zavrel.t@czechglobe.cz. This representative of the buyer can act in any way on behalf of the seller in connection with this contract but it cannot change or terminate this contract.
2. The representative of the seller is Mr Steffen Walz (Managing Director). This representative of the seller can act in any way on behalf of the seller in connection with this contract but it cannot change or terminate this contract.

X. JOINT PROVISIONS

1. The ownership right to the subject matter of purchase is transferred at the moment when the subject matter of purchase is handed over to the buyer.
2. Without consent from the other party granted in writing, none of the parties can transfer a receivable, a debt arising from this contract or this contract itself to a third party.
3. Each of the parties takes over the risk of change of circumstances pursuant to section 1765 of Civil Code concerning its debts arising on the basis of this contract.
4. No rights and obligations of the parties can be inferred from the practice established between the parties or customs observed in general or in the field concerning the subject matter of this contract.
5. If any of the provisions of this contract shows to be imaginary (petty), the impact of this defect on the other provisions of the contract will be assessed similarly pursuant to section 576 of Civil Code.
6. The parties exclude application of the following provisions of Civil Code to this contract: section 557 (contra proferentem rule).
7. The seller is aware of the fact that it is a person obliged to cooperate during performance of tax inspection. The seller has to oblige all its subcontractors for cooperation during performance of tax inspection.
8. The parties agree that the court competent for hearing and deciding of any possible disputes arising between the buyer and the seller pursuant to this contract or in connection with it is a general court of the buyer.

XI. FINAL PROVISIONS

1. This contract is governed by international collision clauses.
2. This contract does not depend on another contract. No other contract depends on this contract.
3. This contract contains full agreement concerning the subject matter of contract and all the particulars the parties were supposed to and wanted to settle in the contract and which are considered for the binding character of this contract. No statement of the parties made during negotiations concerning this contract or after this contract is concluded may be interpreted in contradiction with the explicit provisions of this contract and it does not establish a liability of any of the parties.
4. This contract can only be changed in writing in the form of numbered supplements to this contract. The parties can contest invalidity of the contract or its supplement anytime due to failure to observe its form, even if fulfilment has already been commenced.
5. This contract is prepared in two counterparts and each party shall obtain one of them.
6. The contracting parties acknowledge that for its effectiveness this contract requires the publication in the registry of contracts pursuant to the Act no. 340/2015 Coll., and they agree with this publication. The Buyer secures sending of the contract to the registry of contracts immediately after the contract is signed by both contracting parties. The Buyer undertakes to

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inform the other party about the registration by sending a copy of the confirmation of the publication from the administrator of the registry of the contracts to the other party without undue delay after the Buyer himself receives this confirmation.

7. An integral part of this agreement is:

a) Attach No. 1: Technical parameters of the subject matter of purchase

Effeltrich on this day



Mr Steffen Walz
Mr Harald Walz
Managing Directors
Heinz Walz GmbH



Heinz Walz GmbH
Eichenring 6
91090 Effeltrich / Germany

Brno on this day

19/10/2017

prof. RNDr. Ing. Michal V. Marek, DrSc., dr. h. c.



Director

Global Change Research Institute CAS

ÚSTAV VÝZKUMU GLOBÁLNÍ ZMĚNY

AV ČR, v.v.i.

603 00 Brno, Bělidla 4a

IČ: 86652079

Attach No. 1: Technical parameters of the subject matter of purchase

Manufacturer: Heinz Walz GmbH

Type: MULTI-COLOR-PAM (Multiple Excitation Wavelength Chlorophyll Fluorometer)

General description of the subject matter of purchase

The kinetic fluorometer will provide a closer look to the cellular energetics of photosynthetic microorganisms. Excitation wavelengths in the range of 400-725 nm will cover most of the absorption spectrum of organisms normally studied at the Department of Adaptive Biotechnologies. The kinetic fluorometer will allow to follow both the basic fluorescence parameters (F_t , F_o , F_m , F , F_o' , F_m') as well as derived basic (F_v/F_m , $Y(II)$, NPQ, ETR) and advanced fluorescence parameters (such as optical cross-section of the photosystem II). The fluorescence parameters will be measured by excitation at specific wavelengths, which will allow to evaluate the sensitivity of the photosynthetic apparatus to specific wavelengths. The possibility of temperature control and mixing of the cell suspension will also be part of the delivery.

The subject of the tender will comply with the following technical parameters:

1. The device will allow to measure the rapid dynamics of chlorophyll fluorescence with a time resolution of at least 20 μ s for at least 1 s within the so-called O-J-I-P curves.
2. The device will also allow to measure the slow dynamics of chlorophyll fluorescence with a time resolution of at least 100 ms for at least 15 min within the so-called Kautsky dynamics.
3. The device will allow automatic measurement of the parameters of the induced chlorophyll fluorescence, including F_t , F_o , F_m , F , F_o' , F_m' .
4. The device will allow automatic calculation of derived parameters of the induced chlorophyll fluorescence, including: F_v/F_m (maximum quantum yield of photosystem II), $Y(II)$ (effective quantum yield of photosystem II), NPQ (non-photochemical quenching) including the qN component, and ETR (electron flow rate).
5. The device will allow automatic evaluation of the functional absorption cross-section of PS II from the measurement of rapid kinetics of chlorophyll fluorescence induction (within the so-called O-J-I-P curve) and thus it will allow the ETR parameter to be measured in both relative and in absolute terms.
6. The device will allow automatic identification of parameters α (initial slope of the ETR curve under low irradiance, proportional to quantum efficiency of photosynthesis), I_k (minimum saturation light intensity) and ETR_{max} (maximum ETR) within the ETR curves measurement
7. The device will allow to choose wavelengths for setting of both actinic light and measurement light, at least in the following range: 430-450 nm, 530-550 nm, 580-600 nm and 620-640 nm.
8. The device will further enable the use of white light (wavelengths range at least 420-635 nm) as well as far red light (minimum wavelength of 720 nm) as a source of actinic light.
9. The device will be furthermore able to use violet light (wavelengths range 390-410 nm) as the measuring light source.

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10. The intensity of actinic lights will be programmable in the range 0 - 3 000 $\mu\text{mol (photons) m}^{-2}\cdot\text{s}^{-1}$ or higher
11. The intensity of saturation pulses will be programmable in a range of at least 0 - 10 000 $\mu\text{mol (photons) m}^{-2}\cdot\text{s}^{-1}$ for multiple turnover flashes and in the range of at least 0 - 20 000 $\mu\text{mol (photons) m}^{-2}\cdot\text{s}^{-1}$ for single turnover flashes.
12. The device will allow the temperature to be controlled during measurement, e.g. with the integrated water bath connection (water bath is not required as part of the delivery).
13. The device will allow mixing of the cell suspension, e.g. by a magnetic stirrer (the stirrer is required as part of the delivery).
14. The device will enable calibration of the light source in all wavelengths with a pre-calibrated light sensor (the sensor is required as part of the delivery).
15. The device will be operated via a dedicated computer (laptop or desktop PC, the control computer is required as part of the delivery) using Windows 10 compatible software
16. The device will be able to export data in commonly supported output formats (e.g.: .csv, .tsv, .ods, .ascii or .xls / xlsx).