

Bulgarian Academy of Sciences
Institute of Solid State Physics
"George Nadjakov"



72, Tzarigradsko Chaussee Blvd.
1784 Sofia, Bulgaria <http://www.issp.bas.bg>
e-mail: director@issp.bas.bg

Telephone: (+359 2) 979/ ext.
Director: (+359 2) 875 80 61
Administration: (+359 2) 877 34 92
Chief Accountant: (+359 2) 875 50 59

Dear Dr. Schirg,

Concerning our preliminary correspondence on Tender procedure initiated by ISSP BAS (published July, 2014) and your last proposed Offer 3462-4 (Offer 3462-4: „MaxiMem bench scale membrane filtration unit“ , shown below) and after more than 3 months duration of the negotiation process between the institutions We agreed to sign next

DIRECT CONTRACT

between both sites:

- ISSP BAS, as the Contracting Authority and
- PS Prozesstechnik GmbH, Neuhausstrasse 36 CH-4057 Basel, Tel.: *41 61 544 3003, E-Mail: info@psprozesstechnik.ch, as the Contractor,

We agree, the DIRECT CONTRACT to become in power immediately after signing by both sites and

The DIRECT CONTRACT includes additional 7 (seven) agreements to the Offer 3462-4: „MaxiMem bench scale membrane filtration unit“, namely:

Art.1. The Contracting Authority shall notify in a written form and within the guarantee term the Contactor about defects. Within 3 (three) working days after notification the Contractor in coordination with the Contracting Authority shall in order of description: (i) advise by mail or phone how to fix the broken part, (ii) require the broken part to be sent to it by mail at the Contractor's cost, (iii) replace or repair the broken part (iv) collect the unit at its own cost for repair, and (v) repair and return the unit at its own cost to the Contracting Authority. All such steps shall aim at removing the defects or repairing the unit within the minimum technological term and we can specify the documents that come with the unit"

Art. 2. Technical documentation is: The manual in English equivalent to the specimen already sent, namely
P&I diagram (also included in this manual); Included are also the copies of documents of installed main components like pump, electronic registering device, temperature controller.

Art.3. Test protocol: Contractor will test: max pressure, automatic low and high pressure switch of function, operation of the unit at different flows and pressures, PID controller cooling activity, function of the electronic data recording device (reading of pressure, temperature, flow) and data transfer by USB. Installation and putting into



Bulgarian Academy of Sciences
Institute of Solid State Physics
"George Nadjakov"



72, Tzarigradsko Chaussee Blvd.
1784 Sofia, Bulgaria <http://www.issp.bas.bg>
e-mail: director@issp.bas.bg

Telephone: (+359 2) 979/ ext.
Director: (+359 2) 875 80 61
Administration: (+359 2) 877 34 92
Chief Accountant: (+359 2) 875 50 59

operation at Contracting Authority site is not included in the price, but any advice needed will be free of charge by mail and phone. "

Art.4. Delivery time: 12 weeks from Contract signing to ready to ship

Art.5. The overall price for performance of the obligations under the contract for the unit is EUR 33,675 (thirty three thousand six hundred seventy five Euro) total final amount pursuant to the price offer of the Contractor.

Art.6. The consideration under Art.5 shall be paid in EUR by the Contracting Authority to the Contractor via bank transfer to the bank account of the Contractor at:

Bank UBS AG, Basel
IBAN CH62 0023 3233 1225 6982 1
BIC UBSWCHZH80A

Art.7. The payment shall be effected in two instalments as follows:
First payment with the amount of EUR 32,500 (thirty two thousand five hundred Euro) shall be made within 14 working days subject to receipt of invoice and the certification protocol and T1 document by the transport company, certifying that the goods are at their terminal in Bulgaria to be released when the payment is received. Second payment of the rest of the amount of EUR 1174.71 within 30 days after delivery of the unit and performance of the contract, subject to an invoice and signed by the parties delivery and acceptance protocols for testing of the unit as well as delivered technical documentation.

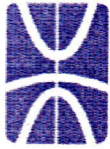
"Offer 3462-4: „MaxiMem bench scale membrane filtration unit“

Purpose:

The proposed multipurpose membrane filtration unit can be used with different types of membrane modules which can be exchanged. It can operate at up to 60 bar and 60°C for many MF/UF/NF/RO applications. The materials of the unit are stable against organic solvents. Seals are Kalrez or equivalent or Teflon. Product contacting metal parts are stainless steel 316L or equivalent. The unit can be used with different types of membrane modules. Included is a flat channel module, tubular and spiral wound element module are optional. The unit has a stainless steel control cabinet with on/off switch, frequency converter setting for the feed pump, emergency button, overpressure reset button and PID controller with display for electronic temperature control and an electronic data recorder and display for all electronically measured operating parameters.

MaxiMem Membrane unit including:

- Feed pump, max 60 bar. Feed flow up to 250 l/h. With frequency converter for adjustment of cross flow velocity
- Stainless steel feed vessel with 2.5l volume with heating/cooling jacket
- 1 Flat sheet membrane module for polymeric membranes, membrane area 200cm², channel dimensions 260mm length, 80mm width, 1.2mm channel height including feed and permeate spacer. Including cooling jacket. Seals Kalrez or equivalent.



Bulgarian Academy of Sciences
Institute of Solid State Physics
"George Nadjakov"



72, Tzarigradsko Chaussee Blvd.
1784 Sofia, Bulgaria <http://www.issp.bas.bg>
e-mail: director@issp.bas.bg

Telephone: (+359 2) 979/ ext.
Director: (+359 2) 875 80 61
Administration: (+359 2) 877 34 92
Chief Accountant: (+359 2) 875 50 59

- one set of Seals as spares
- 1 electronic pressure indicator 0 - 60 bar
- 1 manual spring loaded pressure control valve
- All valves for operation and emptying
- PT100 temperature sensor 0 - 100°C
- PID controller for temperature, operating a magnetic valve which controls flow of cooling liquid from any thermostate with high enough cooling capacity (thermostate customer supplied) or any other cooling liquid source.
- Electronic data recorder for pressure, temperature, feed flow (via pump speed). Display as numbers or trends over time on LCD display and storage of data. Can be transferred by SD card or USB stick into PC and Excel. Can be connected to ethernet for remote view.
- Frame: stainless steel 304 or equivalent
- Product contacting metal parts stainless steel 316L or equivalent
- Operating instructions in English
- Ready to run and tested unit. Comes with factory acceptance test protocoll.

Price: 29'500 EUR

Option 1 high flux pump

for options 1 and 2 higher pump flow is recommended for good cross flow velocity. Pump with 660 instead of 250 l/h, stronger motor, forced ventilation.

Price 1'500 EUR

Option 2: module for continuous operation or automatic diafiltration

this module has two peristaltic pumps, a level switch for the feed vessel and a controller that is programmed to run either automatic diafiltration at constant level or converts the basic unit from batch unit into continuous operation. In continuous operation the system will run automatically as long as you want taking fresh feed from a feed container and splitting it into permeate and retentate with selectable concentration factor.

Price: 3'600 EUR

Shipping costs (packing included): **550 EUR**

Package price: Base unit + Option 1 (high flux pump) + Option 2 (module for continuous operation or automatic diafiltration) + packing and shipment = **33'675 EUR**

Offer valid 60 days. Prices net without taxes. Warranty: 12 months. Payment terms: net when ready to ship. Delivery time: 12 weeks from order."

ВЪЗЛОЖИТЕЛ/CONTRACTING AUTHORITY: ИЗПЪЛНИТЕЛ/CONTRACTOR:

/Акад. Александър Г. Петров

Гл. счетоводител на ИФТТ, Елеонора Попова



Dr. Schirg Peter Robert Gustav

PS Prozesstechnik GmbH
Neuhausstrasse 36
CH-4057 Basel