



INVITATION TO TENDER

Contracting authority:

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Jan Evangelista Purkyně University in Ústí nad Labem invites bids from interested companies for Supply and installation of the following equipment:

Pressure-driven pumping system for microfluidic systems - 2016/0113

System description

A compact software controlled pressure-driven pumping system for precise delivering of fluids into the microfluidic systems including (in minimal configuration): (i) the pressure control unit(s) with four independently controlled channels; (ii) software; (iii) air pressure compressor and (iv) starting kit necessary for initial experiments (e.g. pressurized vessels).

Compulsory minimum criteria of quotation:

1. Maximal price of the instrument is 13.751,- € (excluding VAT and duties)
2. Minimal technical parameters of instrument (defined later in the text)
3. Delivery of the instrument within 60 days of signing the contract
4. Shipping costs will be included in quotation
5. Standard warranty conditions (min. 12 months)

Evaluation criteria:

1. Price of the instrument (weight 0,7)
2. Technical parameters of the instrument (weight 0,3)

In the first round of evaluation, the quotes which will not satisfy compulsory minimum criteria will be excluded from tender. In the second round, the quotes will be scored in each evaluation criteria. In the first criteria (price), the quotes will be ordered based on the lowest and maximal price. Each quote will be scored with the number obtained by dividing the lowest price of the quotes received in tender by the price of the scored quote and multiplied by weight (0,7) of the criteria. In case of the second criteria, the similar approach will be followed. The quotes will be ordered based on total maximal and minimal points achieved. Each quote will be scored with the number obtained by dividing the points achieved in quote by maximal points achieved of quotes in tender and multiplied by weight (0,3) of the criteria. Weighted points achieved in both criteria will be count up for each quote. The quote with maximal points achieved will be selected as winner of the tender. In case of equal number of points, the offer with higher score in technical parameters will be preferred.

Minimal technical parameters of instrument

Minimal technical parameters of instrument	
System power supply	
European standard of power supply (220-240 V, 50-60 Hz)	
Pressure-driven flow controller - basic parameters	
Pulseless flow	
Response time	≤ 200 ms
Settling time (time for pressure to rise and settle)	≤ 4 s
Pressure stability	$\leq 0.2\%$ CV or $\leq 0.05\%$ F.S.
Pressure sensor resolution	$\leq 0.04\%$ F.S.
Independent channels (possible more controllers if number of channels is restricted per controller)	at least 4
Minimal output channel pressure	0 mbar
Maximum output channel pressure (depends on possibilities to set desired min./max., see main application of the system in Additional information below)	up to 400 mbar
Independent regulation of pressure per channel	
Software control of pressure per channel	
Pressure-driven flow controller - software characteristics	
Functional software for controller unit and channels operation to automate the pressure driven experiments	
Compatible software with MS Windows (32/64 bit, preferred 64 bit)	7/8/10
Remote control - connection type	USB (preferred) or RS232
Regulation and real-time control of pressure in each channel	
Software synchronization of individual channel functions	
Source of pressure/vacuum	
European standard of power supply (220-240 V, 50-60 Hz)	
Air pressure source - compressor	
Others	
Starting kit of pressurized tubings/vessels/tubes	

CPV code: 38425000-0 Liquid mechanics equipment

Specification of evaluation criteria:

1. Price of the instrument (weight 0,7)

Quotes will be ordered based on the final price (excluding VAT and duties) and scored as already described.

2. Scored technical parameters of instrument (weight 0,3)

Evaluated software parameters	Points
Possibility to set and control time-dependent flow profiles per channel independently	2
Possibility to control flow-rate with installed flow sensor per	2



channel independently	
Possibility to set volumes of liquid injected into system (microfluidic chip) per channel independently (if flow sensor is installed)	2
Possibility to design complex assays with multiple channels synchronization	6
Controller specifications	
Every additional channel in quoted system (possible more controllers if number of channels is restricted per controller)	2 (per channel, maximum 4 channels will be scored)
Channel modularity in quoted system – offered possibility to exchange type of channel (pressure range of channel or pressure/vacuum mode of channel) for free within 40 days after delivery of the system (delivery fees will be paid by customer)	(X channels/number of channels in quoted system)*2
Possible controller upgrade for channels working in negative mode (or combined positive and negative mode – channels do not have to be included in quotation)	3
Available flow-rate control system (sensors) compatible with controller and software	3
Flow-rate control sensors in quoted system (independent monitoring of flow-rate per channel with flow sensor)	2 (per sensor)
Source of pressure/vacuum	
Vacuum source in quoted system (can be combined with pressure system)	4
Others	
Available solutions compatible with controller and software for very complex experimental design (multiplexers or valving systems)	2
Compatibility of the system with commercially available tubings/vessels/tubes	2

Additional information

Typical properties of microfluidic systems which will be connected to pressure-driven pump system

Example application - microfluidic chip dimensions	
channel height range	50-1000 µm
channel width range	100-5000 µm
channel length range	10-50 mm
Typical flow-rates in the system	
Minimum flow-rate	50.00 µl/min
Maximum flow-rate	5.00 ml/min

System will be used mainly for cell studies in flow chambers. Cell cultivation systems of ibidi GmbH can serve as a reference systems. More details on <http://ibidi.com/>.

**Way of submission tender**

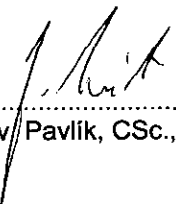
The Contracting Authority requires that the offer was made through electronic procurement system E-ZAK (<https://ezak.ujep.cz/>). Scanned files (signed and stamped) may be in pdf, bmp, jpeg.

The deadline for submission of tenders, which is also the deadline for demonstrating compliance with the qualification ends on 10.01.2017 at 10:00 hours Central European Time (CET).

Tender must be written in Czech or English

Must be to offer a proposal contract conditions

Yours sincerely


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doc. RNDr. Jaroslav Pavlík, CSc., Dean of the Faculty

In Ústí nad Labem