



REQUEST FOR QUOTATION (RFQ)

Company's name and address	DATE: 20 July 2020
	REFERENCE: RFQ/049/20 – SUPPLY OF LABORATORY EQUIPMENT FOR SRIIWP – RE-ANNOUNCEMENT

Dear Sir / Madam:

We kindly request you to submit your quotation for supply of laboratory equipment, as detailed in Annex 1 of this RFQ. When preparing your quotation, please be guided by the form attached hereto as Annex 2.

Quotations must be submitted on or before **04 AUGUST 2020, prior to 18.00 (Tashkent time, GMT 5+)** via e-mail, or *courier mail* to the address below:

United Nations Development Programme

4, T. Shevchenko Street, Tashkent city, 100029, Republic of Uzbekistan
Procurement Unit

Electronic version of your quotation must be sent to bids.uz@undp.org¹

Quotations submitted by email must be limited to a maximum of **15MB**, virus-free and no more than 3 email transmissions. They must be free from any form of virus or corrupted contents, or the quotations shall be rejected. The following must be on the subject of email with your quotation to be sent to bids.uz@undp.org:

RFQ/049/20 – Reannouncement of SUPPLY OF LABORATORY EQUIPMENT FOR SRIIWP²

In case you submit your Quote in paper, all the documentation must be sealed (envelop) and delivered to the address above with the following information on the face-sheet:

«TO: UNDP in Uzbekistan

ATTENTION: PROCUREMENT UNIT

SEALED QUOTE: **RFQ/049/20 RE-ANNOUNCEMENT**

BIDDER [*name and address*]

DEADLINE: **04 AUGUST 2020, prior to 18:00** (Tashkent time, GMT+5)

Do NOT open at the entrance! »

It shall remain your responsibility to ensure that your quotation will reach the address above on or before the deadline. Quotations that are received by UNDP after the deadline indicated above, for whatever reason, shall not be considered for evaluation. If you are submitting your quotation by email, kindly ensure that they are signed and in the .pdf format, and free from any virus or corrupted files.

Please take note of the following requirements and conditions pertaining to the supply of the abovementioned good/s:

¹ Quotations submitted to other email accounts will not be accepted and will be declined.

² Email submission that will not contain this subject or without reference to subject tender will not be opened and will be declined.

Delivery Terms [INCOTERMS 2020]	<input checked="" type="checkbox"/> CIP- Tashkent. The goods must be addressed to UNDP in Uzbekistan with the list of document indicated below.	
Customs clearance, if needed, shall be done by	<input checked="" type="checkbox"/> UNDP	
Distribution of shipping documents	The minimum list of supporting documentation: invoice (2 originals), packing list (2 originals), certificate of origin (2 originals), ISO certificates (if applicable), as well as all other documents confirming the origin and quality of the goods in accordance with INCOTERMS 2020, necessary for customs clearance in the Republic of Uzbekistan.	
Latest Expected Delivery Date and Time	<input checked="" type="checkbox"/> 100 calendar days from the date of Contract/PO signature by the sides.	
Delivery Schedule	<input checked="" type="checkbox"/> Required.	
Mode of Transport	<input checked="" type="checkbox"/> Land <input checked="" type="checkbox"/> Air	<input checked="" type="checkbox"/> Other
Preferred Currency of Quotation	<input checked="" type="checkbox"/> Local Currency: Uzbekistan So'm (UZS) to local Bidders (registered in Uzbekistan); <input checked="" type="checkbox"/> United States Dollars or Euro to foreign Bidders (registered outside of Uzbekistan).	
Value Added Tax on Price Quotation	<input checked="" type="checkbox"/> Applicable to local Bidders: If the bidder is a VAT payer in accordance with the legislation of the Republic of Uzbekistan, the proposal must include VAT, in a separate line; <input checked="" type="checkbox"/> Applicable to foreign Bidders: The offer shall not include VAT and other applicable indirect taxes.	
After-sales services required	<input checked="" type="checkbox"/> Warranty on Parts and Labor for minimum period of 24 calendar months; <input checked="" type="checkbox"/> Provision of Service Unit when pulled out for maintenance/ repair within 24 calendar months.	
Deadline for the Submission of Quotation	04 AUGUST 2020, prior to 18:00 (Tashkent time, GMT +5).	
All documentations, including catalogs, instructions and operating manuals, shall be in this language	<input checked="" type="checkbox"/> Russian and/or <input checked="" type="checkbox"/> English Documents submitted in a language other than Russian or English must be translated into Russian and/or English and submitted upon request by UNDP.	

List of mandatory documents to be submitted by Offeror's together with their Quotations by the deadline set above	<input checked="" type="checkbox"/> Duly Accomplished Form as provided in Part 1 of Annex 2 , and in accordance with the list of requirements in Annex 1 ; <input checked="" type="checkbox"/> Declaration of owners' interest in other companies using form provided in Part 2 of Annex 2 ; <input checked="" type="checkbox"/> Company's profile with detailed information (name of the company, address, contact details etc.) using form provided in Part 3 of Annex 2 ; <input checked="" type="checkbox"/> Contact details (email, telephone, website) of clients whom the bidder supplied laboratory equipment in the last 3 years using form provided in Part 4 of Annex 2 ; <input checked="" type="checkbox"/> At least 2 contracts for supply of laboratory equipment; <input checked="" type="checkbox"/> Verified copy of the latest valid business registration certificate of the Bidder's company ³ ; <input checked="" type="checkbox"/> Quality Certificates (ISO, etc.) and Compliance Certificate (if applicable), Catalogue with details description of offered product with pictures; <input checked="" type="checkbox"/> Written Self-Declaration of not being included in the UN Security Council 1267/1989 list, UN Procurement Division list or other UN Ineligibility List.
List of documents to be requested by UNDP additionally from the three lowest priced bid Offerors ⁴	<input checked="" type="checkbox"/> (a) Copy of Financial Reports (balance sheet) for the last two years, verified by a third party (tax agency, audit company or other authorized body); OR <input checked="" type="checkbox"/> (b) a bank statement from Offeror's bank, issued not more than 30 days prior the bid submission or quotation date, stating that the Bidder has available or has access to liquid assets (asset that can be readily converted to cash) necessary to meet the obligations/supply cash flow for the contract of not less than Offeror's bid value.
Period of Validity of Quotes starting the Submission Date	<input checked="" type="checkbox"/> 90 calendar days after deadline for submission of quotation In exceptional circumstances, UNDP may request the Vendor to extend the validity of the Quotation beyond what has been initially indicated in this RFQ. The Proposal shall then confirm the extension in writing, without any modification whatsoever on the Quotation.
Payment Terms	To Local Bidders: <input checked="" type="checkbox"/> Shall be made in Uzbek Soums by means of bank transfer: 100% post-payment upon delivery of technique to the exact delivery address, signing acceptance act and Tax-invoice; To Foreign Bidders: <input checked="" type="checkbox"/> Shall be made in US Dollars or Euro by means of bank transfer: 100% post-payment upon delivery of technique to the exact delivery address.

³ Verified by the signature of the authorized Offeror's representative and Offeror's company stamp/seal

⁴ Non-provision of any of additionally requested documents provided in this section will serve as a ground for disqualification of the Offer

Liquidated Damages	<p>Will be imposed under the following conditions:</p> <p><input checked="" type="checkbox"/> Penalty will be applied as percentage of contract price per day of delay: 0.1%, but up to maximum 20% of total contract value;</p> <p><input checked="" type="checkbox"/> Next course of action: penalty and termination of contract and return of advance payment if applicable</p>
Evaluation Criteria	<p><input checked="" type="checkbox"/> Technical responsiveness/Full compliance to requirements and lowest price;</p> <p><input checked="" type="checkbox"/> Strong financial position: (a) Liquidity ratio for the last two years not less than 1 if financial statements are presented; OR (b) Confirmation from bank on financial strength of the Offeror as per requirement outlined above;</p> <p><input checked="" type="checkbox"/> Full acceptance of the PO/Contract General Terms and Conditions;</p> <p><input checked="" type="checkbox"/> Comprehensiveness of after-sales services and warranty;</p> <p><input checked="" type="checkbox"/> At least 2 contracts for supply of laboratory equipment successfully performed in the last 3 years;</p> <p><input checked="" type="checkbox"/> Demonstrated availability of a permanent office reachable via landline telephone and permanent staff of at least 5 persons.</p>
UNDP will award Contract/PO to	<p><input checked="" type="checkbox"/> One supplier for each Lot or one supplier for two lots.</p> <p>UNDP will not consider offers, which include subcontracting.</p>
Type of Contract to be Signed	<p><input checked="" type="checkbox"/> Contract/Purchase Order for supply of Goods.</p>
Special conditions of Contract	<p><input checked="" type="checkbox"/> Cancellation of PO/Contract if amount of penalty for delay in delivery exceeds 20% of the total contract/PO value.</p>
Conditions for Release of Payment	<p><input checked="" type="checkbox"/> Written Acceptance of Goods based on full compliance with RFQ requirements;</p> <p><input checked="" type="checkbox"/> Submission of certificate of quality (ISO and etc.), compliance (if applicable) and warranty.</p>
Annexes to this RFQ	<p><input checked="" type="checkbox"/> Specifications of the Goods Required (Annex 1);</p> <p><input checked="" type="checkbox"/> Form for Submission of Quotation (Annex 2);</p> <p><input checked="" type="checkbox"/> General Terms and Conditions / Special Conditions: https://www.undp.org/content/undp/en/home/procurement/business/howwe-buy.html;</p> <p>*Non-acceptance of the terms of the General Terms and Conditions (GTC) shall be grounds for disqualification from this procurement process.</p>
Contact Person for Inquiries (written inquiries only)	<p>UNDP CO Uzbekistan, Procurement Unit 4, T. Shevchenko Street, Tashkent city 100029, Uzbekistan Fax: (+998 78) 1203485 Email: pu.uz@undp.org Any delay in UNDP's response shall be not used as a reason for extending the deadline for submission, unless UNDP determines that such an extension is necessary and communicates a new deadline to the Proposers.</p>
Post-qualification Actions	<p><input checked="" type="checkbox"/> Verification of accuracy, correctness and authenticity of the information provided by the bidder on the legal, technical and financial documents submitted;</p> <p><input checked="" type="checkbox"/> Inquiry and reference checking with Government entities with jurisdiction on the bidder, or any other entity that may have done business with the bidder;</p>

	<input checked="" type="checkbox"/> Inquiry and reference checking with other previous clients on the quality of performance on ongoing or previous contracts completed; <input checked="" type="checkbox"/> Physical inspection of the bidder's plant, factory, branches or other places where business transpires, with or without notice to the bidder.
Other	<p>Offers submitted by two (2) or more Offerers shall all be rejected if they are found to have any of the following:</p> <p>a) they have at least one controlling partner, director or shareholder in common; or</p> <p>b) any one of them receive or have received any direct or indirect subsidy from the other/s; or</p> <p>c) they have the same legal representative for purposes of this RFQ;</p> <p>d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about, or influence on the Offer of, another Offerer; or</p> <p>e) they are subcontractors to each other's Offer, or a subcontractor to one Offer also submits another Proposal under its name as lead Offerer; or</p> <p>f) an expert proposed to be in the team of one Offerer participates in more than one Offer received for this RFQ process. This condition does not apply to subcontractors being included in more than one Offer.</p>
Remark	<p>1) In order to simplify customs clearance of the goods it would be highly desirable to send the goods in one cargo at once.</p> <p>2) Positions 1.4 (from Lot#1), 2.1, 2.2 (from Lot#2) require specific assembly and installation, it is required to include instructions for assembly, installation and testing, as well as provide contacts of a specialist-consultant (Russian-speaking) for online consultation at assembly and commissioning</p>

Goods offered shall be reviewed based on completeness and compliance of the quotation with the minimum specifications described above and any other annexes providing details of UNDP requirements.

The quotation that complies with all of the specifications, requirements and offers the lowest price, as well as all other evaluation criteria indicated, shall be selected. Any offer that does not meet the requirements shall be rejected.

Any discrepancy between the unit price and the total price (obtained by multiplying the unit price and quantity) shall be re-computed by UNDP. The unit price shall prevail and the total price shall be corrected.

If the supplier does not accept the final price based on UNDP's re-computation and correction of errors, its quotation will be rejected.

After UNDP has identified the lowest price offer, UNDP reserves the right to award the contract based only on the prices of the goods in the event that the transportation cost (freight and insurance) is found to be higher than UNDP's own estimated cost if sourced from its own freight forwarder and insurance provider.

At any time during the validity of the quotation, no price variation due to escalation, inflation, fluctuation in exchange rates, or any other market factors shall be accepted by UNDP after it has received the quotation. At the time of award of Contract or Purchase Order, UNDP reserves the right to vary (increase or decrease) the quantity of services and/or goods, by up to a maximum twenty five per cent (25%) of the total offer, without any change in the unit price or other terms and conditions.

Any Purchase Order that will be issued as a result of this RFQ shall be subject to the General Terms and Conditions attached hereto. The mere act of submission of a quotation implies that the vendor accepts without question the General Terms and Conditions of UNDP herein attached as Annex 3.

UNDP is not bound to accept any quotation, nor award a contract/Purchase Order, nor be responsible for any

costs associated with a Supplier's preparation and submission of a quotation, regardless of the outcome or the manner of conducting the selection process.

Please be advised that UNDP's vendor protest procedure is intended to afford an opportunity to appeal for persons or firms not awarded a purchase order or contract in a competitive procurement process. In the event that you believe you have not been fairly treated, you can find detailed information about vendor protest procedures in the following link: <http://www.undp.org/procurement/protest.shtml>.

UNDP encourages every prospective Vendor to avoid and prevent conflicts of interest, by disclosing to UNDP if you, or any of your affiliates or personnel, were involved in the preparation of the requirements, design, specifications, cost estimates, and other information used in this RFQ.

UNDP implements a zero tolerance on fraud and other proscribed practices, and is committed to identifying and addressing all such acts and practices against UNDP, as well as third parties involved in UNDP activities.

UNDP expects its suppliers to adhere to the UN Supplier Code of Conduct found in this link: http://www.un.org/depts/ptd/pdf/conduct_english.pdf.

Thank you and we look forward to receiving your quotation.

Sincerely yours,

Procurement Unit
UNDP in Uzbekistan

TECHNICAL SPECIFICATIONS

The requested agricultural equipment/machinery will be used for works in agro-industrial complex

№	Name/purpose	Specification		Quantity
		Description	Significative	
Lot 1.				
1.1.	HYDROMETRIC PROPELLER TYPE FLOW METER FOR MEASURING OF FLOW VELOCITY, WITH INSTALLED SIGNAL CONVERTER Assigned to measure the water flow velocity in open natural and artificial channels. The signal converter is used as a sensor that converts the flow speed into the pulse frequency of the output signal.	Hydrometric propeller with a rotor diameter 70 and 120 mm		1
		Range of flow speed measurements, m/s: with a rotor diameter 70mm, m/s with a rotor diameter 120 mm, m/s	0,03 - 5,00 0,06 - 5,00	
		Range of number of the output signals indication and registration up to, revolution	10000	
		The relationship between the rotational speed of the propeller and the frequency of the output signals	1:1	
		Measurement time is not less than, s	60	
		Supply voltage within, V	2,4 - 3,5	
		Atmosphere air temperature range,	-40...+40°C	
		Water temperature range,	from 1 to 30°C	
		Water flow turbidity up to, g/m3	10000	
		Passport, calibration certificate		
1.2.	TENSOMETRIC SENSOR Assigned for: establishing of strength indicators of the tense-deformed state of various constructive elements of hydraulic structures; study of physical properties of materials, deformations and tensions in the structures; measuring of mechanical values transformed into deformation of elastic elements.	Output type	digital	6
		Accuracy.	500 — 10 000	
		Measurement error no more, %	0,023	
		The atmosphere temperature, degree	from -20 to +50	
		Documents: Passport, certificate		
1.3.	LABORATORY ABRASING CIRCLE (LAC) To determine the abrasion of concrete structures with a dry abrasive, wear resistance of unglazed ceramic tiles	LAC characteristics:		1
		Drive power not less, kWt	0,55	
		Power supply, W	220	
		The number of revolutions of a disk not less, revolutions per minute	28	
		The path of sample during abrasion is not less, m	150	
		The load on the sample not less, MPa	0,06	

		Passport, certificate, user (operation) manual		
1.4.	CONCRETE WATER RESISTANCE DETERMINING DEVICE (CWRD) For testing concrete sample-cylinders for water tightness using the “wet spot” method and filtration coefficient that will allow ton identify an optimal composition of “hydrophobic concrete”, which will ensure high-quality repair and restoration measures. The case includes a humidity sensor, USB cable, CD with software.	CWRD technical features:		1
		Overpressure range within, MPa	0,2 - 1,2	
		Water pressure at loading steps within, MPa	0,2-1,2	
		Maintaining pressure deviation at the loading stage is not more than, %	3	
		The number of samples tested in one time not less, pieces	6	
		Range of time intervals specified at each stage of loading, min	30 - 960	
		Circulating water supply with a volume in the tank at least, l	10	
		Capacity not less than, kWt	1,5	
		Power supply, V	220	
		Passport, certificate, user (operation) manual		
1.5.	DRILLING RIG FOR CONCRETE SAMPLING For drilling of samples from concrete and reinforced concrete structures. The kit includes an adapter for drill bits and tongs for sampling with length up to 80cm.	Drilling rig:		1
		Engine power (petrol, two stroke) not less, kW	3	
		Shaft rotation frequency, rev/min	from 100 to 600	1
		Corrugated hose for discharging exhaust gases with length	4	
		Pressure tank for water with a capacity at least, l	10	1
		Water hose length of not less than, m	3	1
		Drill bits for concrete, reinforced concrete with a diameter within, mm	70, 100, 150, 200	4 pcs.
1.6.	ULTRASONIC DEFECTOSCOPE FOR CONCRETE CONTROL To measure the thickness of concrete products, to search for contaminants/inclusions, cavities and cracks inside products and structures made of reinforced concrete, stone and similar materials with one-sided access, and to study the internal structure of coarse-grained materials by non-destructive method.	The maximum depth of visualization of echo-signals at controlling by shear waves up to, mm	2150	1
		Maximum duration of signals visualized on the device screen up to, μs	1600	
		The maximum controlled and measured concrete thickness, mm	600	
		Minimum diameter of cylindrical type defect at drilling, mm	10	
		Measurement accuracy of thickness and bedding depth of defects no more, %	10	
		Maximum surface area to be controlled, m²	2	
		Ultrasound speed setting range, m/s	1000÷9999	

		Amplitude of the probe signal within, V	20 – 200	
		Pulse frequency, Hz	1÷50	
		Power	Built-in battery	
		The time of continuous operation of device from the battery without indicator backlight, at least	15 h	
		Operating temperature range	-20÷+45°C	
		Passport, certificate, user (operation) manual		
1.7.	CLIMATE CAMERA To simulate aggressive environmental conditions affecting the product, and to create critical temperature effects on the sample, which allows efficient selection of chemicals at composition of weather-resistant material, like concrete for hydraulic purposes.	Humidity range (relative) within, %	30... 95	1
		Temperature accuracy	±0,1	
		Humidity accuracy	±0,1	
		Heating up time no more, min (from –20 to 80°C)	35	
		Cooling time no more, min (from +20 to -20°C)	45	
		Temperature range, degree	- 40 ... +80	
		Power supply, V	220	
		Passport, certificate, user (operation) manual		
1.8.	DRYING CUPBOARD WITH AUTOMATIC REGULATION AND TEMPERATURE SUPPORT for laboratory analysis of soil and water, drying and heat treatment of dishes or other components used in the laboratory	Working camera volume, l	80	1
		Temperature range, °C	+50...+200	
		Heating time to maximum temperature no more, min	30	
		Maximum deviations of the temperature in the camera from the adjusted temperature no more than, degree	± 10	
		Continuous operation time not less, hour	16	
		Power supply, V	220	
		Installed capacity no more, kW	1,6	
		The temperature during operation, degree	+10...+35	
		Passport, certificate, user (operation) manual		
1.9.	GAS POWER CUTTERS Designed for cutting concrete, pipes, asphalt and metals, sampling at existing water facilities for further testing to identify the technical parameters	Output power not less, kW	4,8	1
		Cylinder displacement not less, sm ³	94	
		Blade diameter, mm	300--400	
		Cutting depth within, mm	100-145	
		Sound pressure at the operator's ear no more, dB	105	
		Sound power no more, dB	115	
		Passport, certificate, user (operation) manual		
1.10.	ECHO SOUNDER WITH GPS	Echo characteristics:		1

For bathymetric measurements of reservoirs, surveys and cartography in order to clarify siltation volumes and determine the useful volume of reservoirs.	Frequency no more, KHz	200		
	Maximum transmission power no more, W	500		
	Sound range, m	0,2~300		
	Sounding accuracy at 1 cm resolution, mm	± 10 + 0.1%		
	Adjustment range, m	0 ~ 15		
	Range of sound speed adjustment within, m / s	1200-1800		
	Maximum discretization frequency up to, Hz	30		
	GPS module:			
	Track no less	14		
	Signal	GPS + beacon		
	Accuracy no more, m	0,5		
	PC:			
	Dual core processor, at least, GHz	1,6		
	Memory not less, GB	2		
	Display resolution not less than, inches	17”		
	Hard disk not less, GB	16		
	USB port not less	3		
	Power supply, V	220		
	Power consumption less, V	30		
	Temperature, degree	-20~+50°C		
	Passport, certificate, user (operation) manual			
1.11..	SPECTROPHOTOMETER To determine the substances concentration in water and water extracts from the soil. The package also includes a spectrophotometer for: universal cuvetole holder, - cuvette holder for 10x10 mm cuvettes, - power cord, dust cover, halogen spare lamp, plug adapter (3 pcs), glass cuvettes (4 pcs), quartz cuvettes (2 pcs), cable for connecting to a PC, verification certificate and user manual, verification procedure.	Spectral range, nm	190-1100	1
		The measuring range of the spectral transmittance,%	from 0,1 to 99	
		The range of indications of spectral transmittance, nm	from 0 to 200	
		Range of optical density indications, B	from -0,3 to 3,0	
		Accuracy at measurements	±0,5	
		The spectral width of the slit, nm	0,5-5	
		Drift of indications no more, B / h	±0,001	
		Deviation of the zero line from the average (in range from 300 to 800 nm), B, no more	±0,001	
		Scattered light level (at λ = 340 nm),%, no more	0,05	
		Power supply, V	220	

		Atmosphere temperature range, degrees	from 15 to 30	
1.12.	AQUADISTILLATOR For the production of distilled water, to use in the laboratory for chemical analysis of soil, water, and other types of analyzes, the reagents preparation, preparation of chemical glassware for analysis, etc.	Productivity at least dm ³ /h	4 ± 10%	1
		Power supply, V	220	
		Power consumption, KWt	3,0 ± 10 %	
		Water for cooling and consumption, no more, dm ³ /h	40	
		Unit consumption of raw water per 1 dm ³ of the produced water no more, dm ³	25	
		The operating mode time is not more, min	30	
		The water purification coefficient from radionuclides, not less	3000	
		Passport, certificate, user (operation) manual		
Lot 2.				
2.1.	LABORATORY STAND FOR RESEARCH OF HYDRAULIC PUMPING EQUIPMENT Assigned for: determining of working and cavitation characteristics of a centrifugal pump; study of pumping unit characteristics at in series switching of pumps; studies of at parallel switching of pumps; coordination of pump and network characteristics; determination of optimal operation mode. Two subsystems are installed on the frame of supporting structure: hydraulic and electric. The hydraulic subsystem is designed with water circulation (connection to water supply and sewage systems is not required). Information-measuring system allows to measure pressure, water discharge and power at the inputs of electric motor. The results are displayed on an electronic scoreboard.	On the stand installed:		1
		Two pump units containing a centrifugal pump and a three-phase asynchrony motor.		
		A tank for water for providing water to the hydraulic system of the stand with 220dm ³ capacity		
		Pipelines with shut-off and control device		
		Energy supply system with power consumption no more, V	3,5	
		Supply voltage of pressure sensors no more, V	24	
		Range of measured pressure in the system, MPa	from -0,1 to +0,4	
		Fluid	Water	
		Energy supply, V	220	
		Passport of the device, a set of methodological and technical documentation for laboratory work, software		
2.2.	UNIVERSAL TESTING MACHINE (UIM) FOR BREAK AND TENSION For use in the following tests: - to determine the physical and mechanical properties of various materials;	UIM properties:		1
		The maximum strength of the test is not less, κH	600	
		Relative error of test force, no more	≤±1%	
		Type of clamp	Hydraulic	
		Round sample-adapter 1 piece, mm	13 ~ 40	
		Flat sample-adapter 1 piece, mm	15-30	
		Width of flat sample not less, mm	80	

	- tests of materials for tension, compression, bending, shear, torsion; - determine the deformation, elasticity, plasticity; - conduct static tests and determine the physical properties of materials for axial tension, compression, bending.	Maximum tension test space no less, mm	550	
		Maximum compression test space no less than, mm	500	
		Motor capacity not less, kWt	2	
		Column break no less, mm	450	
		Maximum piston stroke no less than, mm	200	
		Speed of piston stroke no less than, mm/min	80	
		Round sample jaws diameter, mm	13-26 26-40	1 pcs. 1 pcs.
		Flat jaws sample, mm	15-30	1 set.
		Documents: passport, certificate, instruction manual		1set