

Caiet de sarcini / Tender book-Specifications

Pachet de testare NDT, cu particule magnetice fluorescente, tip „Three-Phase FWDC” („Full Wave direct curent / curent continuu cu Unda intreaga”)

Privind achiziționarea unui echipament „FWDC trifazat” („full Wave direct curent”)

Nr./Nr 1 data/data 10.03.2023

I. CERINTE COMERCIALE

<p>A. Obiectul caietului de sarcini: Achizitie echipament de testare NDT, cu particule magnetice fluorescente, tip „Three-Phase FWDC” („Full Wave Direct Curent / Curent Continuu cu Unda Intreaga).</p>	<p>A. Object of the specifications: <i>Acquisition of NDT test equipment, with fluorescent magnetic particles, type "three-phase FWDC" ("full Wave direct current / full-wave direct current").</i></p>
<p>B. Tipul si durata contractului: Contract de achizitie, durata estimata 7 (sapte) luni.</p>	<p>B. Type and duration of the contract: <i>Purchase contract, estimated duration 7 (seven) months.</i></p>
<p>C. Conditia de livrare: Livrarea (predarea) bunului se va face de către Vanzător la sediul Cumpărătorului.</p>	<p>C. Delivery terms: <i>Delivery (delivery) of the goods will be made by the Seller at the Buyer's premises.</i></p>
<p>D. Termenul de livrare: Livrarea, punerea in functiune si instruirea personalului se va finaliza cel mai tarziu pana pe data de 31.10.2023. Ofertantul a luat in considerare toate dificultatile pe care le-ar putea intampina si nu va invoca nici un motiv de intarziere sau costuri suplimentare. Echipamentul de testare NDT, cu particule magnetice fluorescente, tip „Three-Phase FWDC” („Full Wave Direct Curent / Curent Continuu cu Unda Intreaga) va fi livrat, testat si instalat la sediul Aerostar SA.</p>	<p>D. Delivery date: <i>The delivery, commissioning and staff training will be completed at the latest until 31.10.2023. The bidder has taken into account all the difficulties that he might encounter and will not invoke any reason for delay or additional costs. The „Three-Phase FWDC” („Full Wave Direct Curent”) equipment will be delivered, tested and installed at the headquarters of Aerostar SA.</i></p>
<p>E. Conditia de plata: Plata se va face prin transfer bancar in termen 30 zile de la data comunicarii facturii. Daca se doreste plata in avans, acceptam 30% avans garantat cu scrisoare de garantie bancara, diferenta de 70% urmand a fi achitata in termen de max. 30 de zile de la semnarea PVR-Procesului Verbal de Receptie.</p>	<p>E. Payment terms: <i>The payment will be made by wire transfer 30 days net after the invoice was issued. If required, 30% advance payment guaranteed by letter of bank guarantee, 70% 30 days after delivery and signing by both sides of the on-site acceptance form.</i></p>
<p>F. Conditii de garantie: Ofertantul include in propunerea sa tehnica, metodologia de efectuare a serviciilor de asistenta tehnica si reparatii in perioada de garantie. Perioada garantiei nu poate fi mai mica de 12 luni</p>	<p>F. Warranty conditions: <i>The bidder includes in his technical proposal, the methodology for performing technical assistance services and repairs during the warranty period. The warranty period cannot be shorter than 12</i></p>

din momentul receptiei echipamentului la sediul cumparatorului.	<i>months from the moment of receiving the equipment at the Buyers Headquarters.</i>
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II. CERINTE TEHNICE

Specificatiile tehnice / *Technical specifications:*

1. Cerințe tehnice minimale pentru echipament de testare nedistructivă cu pulberi magnetice fluorescente /

Minimally Technical requirements for non-destructive testing equipment with fluorescent magnetic powders

1.1. Propunerea tehnica / <i>The technical proposal:</i>	
Ofertantul va prezenta propunerea tehnica, astfel incat sa respecte in totalitate cerintele prevazute in Caietul de sarcini. Cerintele si specificatiile tehnice din Caietul de sarcini au caracter obligatoriu si vor fi sustinute de ofertant cu documentatie conforma cu originalul pentru produsele oferite.	<i>The bidder will present the technical proposal, so that it fully complies with the requirements stipulated in the Specifications. The technical requirements and specifications in the tak book are mandatory and will be supported by the bidder with documentation in accordance with the original for the offered products.</i>
1.2. Documente obligatorii ale propunerii tehnice / <i>Mandatory documents of the technical proposal:</i>	
Fisele tehnice de la producatorii de produse oferite. La livrare produsul va fi insotit si de urmatoarele documente: - Aviz de insotire si factura fiscala - Declaratie de calitate - Certificatul de garantie - Documentatia tehnica - Certificatul de etalonare	<i>The technical sheets from the manufacturers of the offered products. When delivering the product, it will be accompanied by the following documents: - Accompanying notice and fiscal invoice - Quality declaration - Warranty certificate Calibration certificate</i>
1.3. Caracteristici tehnice / <i>Technical specifications:</i>	
Generalitati: Echipament de testare NDT, cu particule magnetice fluorescente, tip „Three-Phase FWDC” („Full Wave Direct Curent / Curent Continuu cu Unda Intreaga), pentru examinări aeronautice cu particule magnetice, trifazic, tip de curent unda intreaga, deschidere utila 1300 mm, poli de contact si bobina.	Overview: <i>„Three-Phase FWDC” („Full Wave Direct Curent”) equipment for aeronautical examinations with magnetic particles, three-phase, full wave current type, useful opening 1300 mm, contact poles and coil.</i>
1.3.1 Dimensiuni aproximative / <i>Approximate dimensions</i>	2.200 x 750 x 1.050 mm (Lungime x latime x Inaltime / <i>Length x Width x Height</i>)
1.3.2 Deschidere utilă între poli (bacuri) / <i>Usable opening between poles (heads of bench)</i>	60 - 1.300 mm
1.3.3 Tip de curent - magnetizare circulară / <i>Type of current - circular magnetization</i>	FWDC (curent continuu undă întreagă / <i>full wave direct current</i>) 100 - 6.000 A PEAK* AC (curent alternativ / <i>alternate current</i>) 500 – 5.000 A PEAK* *PEAK =Valoare de vârf / <i>Peak value</i>
1.3.4 Tip de curent – magnetizare longitudinală / <i>Type of current - longitudinal magnetization</i>	FWDC (curent continuu undă întreagă/ <i>full wave direct current</i>) 500 - 15.000 A PEAK* AC (curent alternativ/ <i>alternate current</i>)

	1.500 – 5.000 A PEAK* *PEAK =Valoare de vârf / <i>Peak value</i>
Aceste magnetizări pot fi actionate singure sau combinate / <i>These magnetizations can be acted upon singularly or combined</i>	
1.3.5 Demagnetizare / <i>Demagnetization</i>	În / <i>In</i> AC și în / <i>and in</i> FWDC
1.3.6 Structura cadrului principal / <i>The structure of the main frame</i>	Modul din Aluminiu și oțel inox AISI 304 / <i>Aluminum module and AISI 304 stainless steel</i>
1.3.7 Alimentarea electrică / <i>Power supply</i>	400V / 50Hz, Trifazic + împământare / <i>Triphases + Ground</i>
1.3.8 Tensiune auxiliară / <i>Auxiliaries tension</i>	24 V DC
1.3.9 Alimentare aer comprimat / <i>Pneumatic supply</i>	6 bar, pregătită în locația unde va fi conectat echipamentul / <i>6 bar, prepared in the location where the equipment will be connected</i>
1.3.10 Manevrarea pieselor de examinare / <i>Handling of examination pieces</i>	Manual / <i>Manual</i>
1.3.11 Gestionare sistem / <i>Sysyem managing</i>	Panoul de operare / <i>Operator Panel</i>
1.3.12 Produs utilizat / <i>Product used</i>	Suspensie magnetică pe bază de petrol/ <i>Oil based magnetic liquid CARRIER II</i>

2. Caracteristici importante pentru examinări aeronautice / *Important features for aeronautical examinations*

Caracteristici / Features	FWDC THREE-PHASES (curent continuu undă întreagă) FWDC THREE-PHASES (full wave direct current)	AC (curent alternativ / <i>alternate current</i>)
2.1 Precizie / Accuracy	< 7%	< 7%
2.2 Repetabilitate 100A, impuls 0,5 s / <i>Repeatability 100A, impulse 0.5 s</i>	< 6%	Aproximativ < 6% <i>About</i>
2.3 Repetabilitate 200A, impuls 1 s / <i>Repeatability 200A, impulse 1 s</i>	< 5%	Aproximativ < 5% / <i>About</i>
2.4 Întrerupere rapidă curent / <i>Quick Break</i>	< 9,00 ms	==
2.5 Durata impulsului (reglabil) / <i>Impulse duration (adjustable)</i>	0,5 – 5 secunde / <i>seconds</i>	0,5 – 5 sec
2.6 Secvență de impulsuri de magnetizare <i>Sequence of magnetizing pulses</i>	1 – 3 impulsuri / <i>pulses</i>	1 – 3 impulsuri / <i>pulses</i>

3. Standardizarea / *Standardization*

Activitatea de testarea nedistructivă cu particule magnetice fluorescente se aplică pentru detectarea discontinuităților de suprafață sau din imediata vecinătate a suprafeței piesei de inspectat, provenite în urma procesului de fabricație sau în timpul exploatării și trebuie să respecte cerințele tehnice cuprinse în standardele:	<i>The activity of non-destructive testing with fluorescent magnetic particles is applied for the detection of discontinuities on the surface or in the immediate vicinity of the surface of the part to be inspected, originating from the manufacturing process or during exploitation, and must comply with the technical requirements contained in the standards:</i>
<ul style="list-style-type: none"> - ASTM E1444 - Standard Practice for Magnetic Particle Testing - EN ISO 9934 – 1; Magnetic Particles Testing - General principles 	

- EN ISO 9934 – 2; Magnetic Particles Testing – Detection Media
- EN ISO 9934 – 3; Magnetic Particles Testing –Equipment
- ASTM E3022 - Standard Practice for Measurement of Emission Characteristics and Requirements for LED UV-A Lamps Used in Fluorescent Penetrant and Magnetic Particle Testing

4. RECEPTIA / RECEPTION

<p>Receptia produsului: Receptia se efectueaza pe baza de proces verbal de catre o comisie constituita din reprezentantii Vanzatorului si ai Cumparatorului.</p>	<p>Product reception: <i>The reception is carried out on the basis of minutes by a committee made up of representatives of the supplier and the beneficiary.</i></p>
<p>Efectuarea receptiei:</p> <ul style="list-style-type: none"> - receptia cantitativa consta in verificarea existentei si a integritatii echipamentului, respectiv a componentelor (accesorii- cabluri de alimentare, de conectare, de prelucrare date, etc.) - receptia calitativa consta in verificarea functionalitatii echipamentului de magnetizare, a caracteristicilor si a parametrilor aferenti prin verificarea performantei intregului sistem de magnetizare cu piese test cu defecte cunoscute. - instruirea operatorilor NDT MT privind utilizarea echipamentului de testare NDT, cu particule magnetice fluorescente, tip „Three-Phase FWDC” („Full Wave Direct Curent / Curent Continuu cu Unda Intreaga). 	<p>Making the reception:</p> <ul style="list-style-type: none"> - <i>the quantitative reception consists in verifying the existence and integrity of the equipment, respectively the components (accessories - power supply, connection, data processing cables, etc.)</i> - <i>the qualitative reception consists in checking the functionality of the „Three-Phase FWDC” („Full Wave Direct Curent”) equipment, the characteristics and related parameters by checking the performance of the whole magnetization system with test pieces with known defects.</i> - <i>training of NDT MT operators regarding the use of the magnetizing equipment.</i>