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Registration no.

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Project Manager „HE-ART”
Eng. Cesar BANU

Written by:
Technological integrator, head of conception,
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Eng. Adrian GAZ

Technical responsible „HE-ART”
Dr. Eng. Corneliu Ioan STOICA

TECHNICAL CHARACTERISTICS

Electrical Drive System

TECHNICAL CHARACTERISTICS

Electric Drive System

We would like to order an Electric Drive System as described below. It is required in project 20-004/H2020, HE-ART - Hybrid Electric propulsion system for regional Aircraft, project manager: Eng. Cesar BANU. The request comes from the need to operate the propeller of the wind tunnel model [WTM] according to the project requirements.

The Electric Drive System it is composed from the following main components:

- Electric Motor that will be mounted in the WTM
- The inverter that will be mounted in the proximity of the WTM, outside of the exteriment room of the wind tunnel
- Electrical motor controller

It should be mentioned that the procurement is required by the end of December 2024 at the latest, since in April 2025 the tests on the test bench will start to implement the fine speed control capability.

Technical specifications of the electric motor:

- speed range: 4500 ÷ 6000 rpm
- continuous power: 110 kW at 6000 Rpm
- continuously available torque greater or equal to the variation shown in the Figure 1 diagram
- maximum overall dimensions: length < 260mm, width < 310mm, height < 310mm
- mass: < 35 kg
- degree of protection: minimum IPx7
- cooling type: liquid-cooled
- temperature sensor available: yes
- operating temperature: +10°C ÷ +100°C
- inverter compatible with the electrical motor
- controller compatible with the electrical motor
- product type: off-the-shelf
- delivery time: motor available in a maximum of 3 months

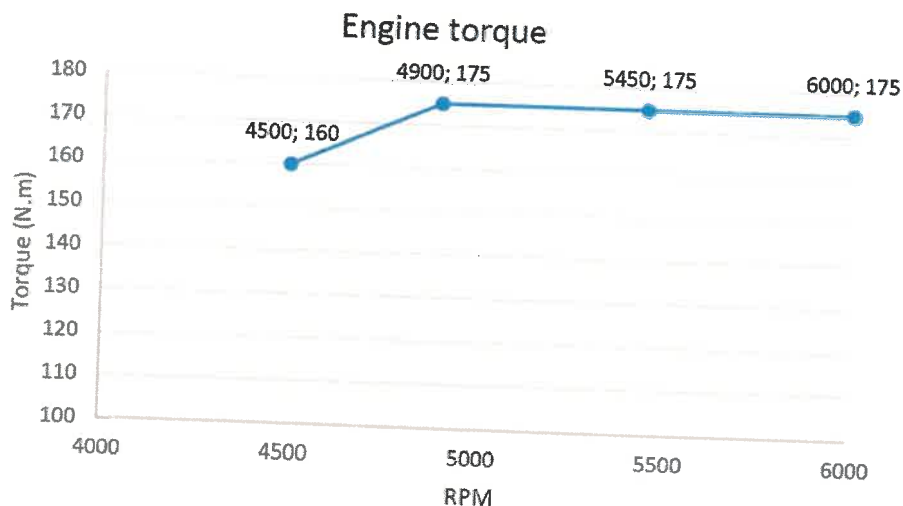


Figure 1 - Torque vs Speed variation graph



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1. Delivery time of products/services

Delivery of the product - maximum 12 weeks after signing the contract.

2. Warranty and post-warranty conditions

The products/services will benefit from a minimum warranty of 12 months from the date of reception.

3. Condition of acceptance

Acceptance: the reception of the product to be supplied will be performed prior to the delivery of the product (Technical Documentation as applicable: Certificate of Conformity, Technical Data Sheet, Maintenance Program) will be carried out by the Purchaser's acceptance committee.

Acceptance of services/products: the acceptance of the products/services will be carried out at the Supplier's premises.

The Supplier will perform a test with the Electrical Drive System by simulating a torque of 175Nm at 6000rpm for 20 minutes.

4. Quality assurance

All products/services will comply with quality assurance norms and standards as per ISO 9001 (similar or equivalent).

5. Methods of payment:

Payment will be made according to the contract between the supplier/provider and the recipient.

For an off-the-shelf product, payment will be made by bank transfer as follows: 100% upon issuance of the Order Placement.

1. Offer Price:

The offer price will be expressed in the currency of the product's country of origin, including all costs related to the product manufacturing, according with INCOTERM Ex Works.

The contracted unit prices are firm in the currency of the product's country of origin throughout the contract.