

	Request for Quotation	Doc. No	BL-INSTRM-RFQ-25001
		Revision	1

RFQ Number	BL-INSTRM-RFQ-25001
Request for Quotation Date	13 August 2026
RFQ Closing Date	21 August 2026
RFQ Closing Time	16:00
Compulsory Site Briefing	NA
Contact Person	Sinovuyo.pani@necsa.co.za
Quotation Validity	90 Days from the closing date
Submission Details	RFQ Response must be sent to: Sinovuyo.pani@necsa.co.za
RFQ Description	Request for Quotation: Parker compumotor E-DC microstepping drive

Dear Service Provider

Kindly provide a quotation for goods and or services as outlined in section 2 and 3 of this document.

1. Introduction

The South African Nuclear Energy Corporation Limited (Necsa) is a state-owned public company (SOC), registered in terms of the Companies Act, (Act No. 61 of 1973), registration number 2000/003735/06.

The Necsa Group engages in commercial business mainly through its wholly-owned commercial subsidiaries: NTP Radioisotopes SOC Ltd (NTP), which is responsible for a range of radiation-based products and services for healthcare, life sciences and industry, and Pelchem SOC Ltd (Pelchem), which supplies fluorine and fluorine-based products. Both subsidiaries, together with their subsidiaries, supply local and global markets, earning valuable foreign exchange for South Africa and are among the best in their field in their respective world markets.

Necsa's safety, health, environment and quality policies provides for top management commitment to compliance with regulatory requirements of ISO 14001, OHSAS 18001 and RD 0034 (Quality and Safety Management Requirements for Nuclear Installations), ISO 9001 and ISO 17025.

Necsa promotes the science, technology and engineering expertise of South Africa and improves the public understanding of these through regular communications at various forums and outreach programmes to the community. We are a proudly South African company continuously striving, and succeeding in many respects, to be at the edge of science, technology and engineering related to the safe use of nuclear knowledge to improve our world.

For more information on Necsa, please visit: www.necsa.co.za

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2. Scope of Work

The purpose of this RFQ is the supply of Parker E-DC microstepping drive suitable for precision motion control applications. The drive shall be used for the control of linear and rotation stages in conjunction with Heidenhain encoders.

3. Specification of Services

Procurement of Parker compumotor E-DC microstepping drives with original Parker E-DC drive specifications attached in Appendix A, subject to the following requirements:

- i. The drive shall be suitable for precision motion control.
- ii. The drive shall be electrically identical to the installed Parker E-DC drive.
- iii. The drive shall be compatible with the current mounting arrangement without requiring any modifications.
- iv. The drive shall interface with the existing terminal wiring without the need for rewiring.

If new units are unavailable, refurbished units that meet OEM specifications and include the standard warranty shall be considered.

The supply quantity: 15 units

4. Pricing

- All price quoted to include all applicable taxes.
- Price must be fixed and firm.
- Price should include additional cost elements such as freight, insurance until acceptance, duty where applicable, disbursements etc.
- Quotation must be completed in full, incomplete quote could result in a quote being disqualified.
- Payment will be according to Necsa's General Conditions of Purchase.

5. Evaluation

5.1. Phase 1- Functionality Evaluation / Technical Evaluation

Where functional or technical evaluation criterion is applicable, assessment will be performed in terms of the criterion listed below and the criterion may include Technical, Performance, Quality and Risk.

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If the Bidder's response to the Technical templates does not indicate that the Bidder can support an acceptable technical solution, the Bidder's response will be rejected and not evaluated further.

Together the Technical, Performance & Quality and Risk criteria make up the functionality criterion and a Bidder's Proposal will be evaluated for functionality out of a possible 100 points. Only RFQ responses achieving an evaluation score of greater than the set threshold points out of the possible 100 points and which score a number of points for functionality that is greater than or equal to the set threshold points of the number of points achieved by the highest scoring Bid for functionality will be selected to progress to the second stage.

5.2. Phase 2 - Evaluation In Terms Of Preferential Procurement Policy Framework Act, 2022

This bid will be evaluated and adjudicated according to the 80/20 point system, in terms of which a maximum of 80 points will be awarded for price and 20 points will be allocated based on the specific goals (B-BBEE status level).

	POINTS
PRICE	80
SPECIFIC GOALS (B-BBEE status level)	20
Total points for Price and SPECIFIC GOALS	100

Preference goal

B-BBEE status level contributor

B-BBEE Status Level of Contributor	Number of points (80/20 system)
1	20
2	18
3	14
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	0

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6. Required Documentation

- Tax Clearance Certificate (Tax pin issued by SARS)
- Declaration of interest (SBD 4)
- BEE Certificate / Applicable Affidavit if classified as EME
- Letter of Good Standing (COID) only if Applicable due to the nature of work required
- Any other document or certification that might have been requested on this RFQ

7. Important

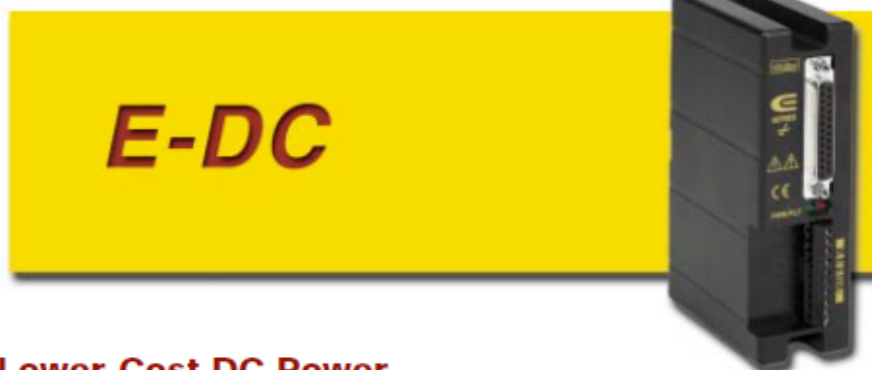
- 7.1. Quotation must be submitted on or before the RFQ closing date and time stated above.
- 7.2. Orders above R 30 000 will be evaluated according to the PPPFA 80/20-point system and a functionality scorecard where applicable and the ones above R 1 Million will be subjected to the tender process.
- 7.3. This RFQ is subjected to the Necsa's General Conditions of Purchase, Preferential Procurement Policy Framework Act 2000 and the Preferential Procurement Regulations, 2022, the General Conditions of Contract (GCC) and, if applicable, any other legislation or special conditions of contract
- 7.4. Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the bid, will be interpreted to mean that preference points for specific goals are not claimed.
- 7.5. The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to specific goals, in any manner required by the purchaser.
- 7.6. For a Bidder to obtain clarity on any matter arising from or referred to in this document, please refer queries, in writing, to the contact details provided above. Under no circumstances may any other employee within Necsa be approached for any information. Any such action might result in a disqualification of a response submitted in competition to this RFQ.
- 7.7. No goods and/or services should be delivered to Necsa without an official Necsa Purchase order.
- 7.8. Necsa reserves the right to; cancel or reject any quote and not to award the RFQ to the lowest Bidder or award parts of the RFQ to different Bidders, or not to award the RFQ at all.
- 7.9. The supplier shall under no circumstances offer, promise or make any gift, payment, loan, reward, inducement, benefit or other advantage, which may be construed as being made to solicit any favour, to any Necsa employee or its representatives. Such an act shall constitute a material breach of the Agreement and the Necsa shall be entitled to terminate the Agreement forthwith, without prejudice to any of its rights
- 7.10. By responding to this request, it shall be construed that: the bidder, hereby acknowledge to be fully conversant with the details and conditions set out in the Necsa's General Conditions of Purchase, Preferential Procurement Policy Framework Act 2000 and the Preferential Procurement Regulations, 2022, the General Conditions of Contract (GCC), Technical Information and Specifications attached, and hereby agree to supply, render services or perform works in accordance therewith

Appendix A:

Catalog 8000-4/USA

E-DC

E SERIES



Lower-Cost DC Power Input Microstepping Drive

Compumotor's new E-DC microstepping drive is designed for a 48VDC input power requirement and provides current up to 4.8 Amps peak of current to the motor.

Features

Performance

- Designed for use with motor inductance range of 0.2 mH–80 mH
- Three-state current control allows the drive and motor to run cooler and more efficiently than two-state drives
- Selectable resolution up to 50,800 steps/rev
- Auto standby reduces motor current (and heating) at rest
- Provides 0.2 Amps to 4.8 Amps (peak)
- Single 24–48 VDC power supply input
- Compatible with a variety of motors
- Six predefined current waveforms to optimize smoothness

Protection

- Optically isolated step and direction inputs
- Short circuit protected—phase-to-phase, and phase-to-ground
- Power dump circuitry to protect drive from regeneration caused by large inertial loads
- Self-test feature to verify proper system operation
- Overtemperature circuitry protects the drive from thermal damage

Physical

- Status/fault LED indicators to confirm proper operation
- ASIC and surface mount technologies minimize product footprint, overall package size, and increase product reliability
- Removable snap-on molded cover for convenient configuration and protection against contaminants
- Optically isolated fault output for embedded applications
- Heat plate design allows thermal dissipation through a suitable heat dissipating mounting surface
- Simplified, two-screw mounting
- Right-angle screw terminal allows side-to-side mounting or Eurorack compatibility
- Overall dimensions 5.0 x 3.6 x 1.6 in. (127 x 91 x 41 mm)
- Convenient configuration DIP switches
- Certified as UL-recognized component
- CE (LVD & EMC)

Catalog 8000-4/USA
Specifications

E SERIES

E-DC Drive Specifications

	Parameter	Value
Power Input	DC	24-48 VDC @ 2.0 Arms (motor dependent)
Performance	Accuracy	±5 arc min (0.0833°) typical. Unloaded-bidirectional with Compumotor supplied motors. Other motors may exhibit different absolute accuracy. ±1 arc min (0.0167°) typical/par each frictional load equal to 1% rated torque. Loaded-In addition to unloaded accuracy.
	Repeatability	±5 arc sec (0.0014°) typical. Unloaded-one revolution returning to start point from same direction.
	Hysteresis	Less than 2 arc min (0.0334°) unloaded-bidirectional.
	Resolution	16 selectable choices: 200, 400, 1000, 2000, 5000, 10000, 12800, 18000, 20000, 21600, 25000, 25400, 25600, 36000, 50000, 50800
	Waveform	Selectable. Allows waveform shaping for optimum smoothness or relative accuracy. Pure sine: -4%, -6%, -8%, -10% 3rd harmonic.
Amplifier	Type	20 kHz fixed frequency, variable duty cycle pulse width modulated (PWM) Current Controlled, bipolar chopper
	Number of Phases	2
	Output Current	0.2-4.8 amps current per phase peak (selectable)
	Drive Supply Voltage	24-48 VDC (dependent on external power supply)
	Standby Current Reduction	25%, 50%, or 75% of selected motor current
	Nominal Chopping Frequency	20 kHz
	Max Stepping Rate	2 MHz max pulse rate; 50 rps max speed
	Stop Input	High-going pulse, 200 nsec min width; max pulse rate is 2 MHz; User-supplied driver for the stop and direction inputs should be capable of providing a minimum of 6.5 mA to maximum of 15 mA
	Direction Input	Logic High = positive (CW) rotation—3.5-5.0V Logic Low = negative (CCW) rotation—0-0.4V User-supplied driver for the stop and direction inputs should be capable of providing a minimum of 6.5 mA to a maximum of 15 mA. The direction input must be stable for at least 200 µsec before the drive receives the first pulse
	Fault Output	Open-Collector/Emitter, Vce = 70 VDC, Vce sat = 0.3 VDC, Ic = 10 mA (max) Maximum dissipation = 55 mW Conducting = normal operation Non conduction = drive fault
Protective Circuits	Short Circuit*	Phase-to-phase, phase-to-ground
	Undervoltage	If DC supply drops below 24 VDC
	Overtemperature*	The drive will fault if heat plate exceeds 55°C
Environmental	Drive Temp	Max allowable ambient temperature is 122°F (50°C). Fan cooling may be required if airflow is restricted. Max allowable heatplate temperature is 55°C.
	Humidity	0 to 95%, Non-condensing
Physical	Drive Dimensions	5.0 x 3.6 x 1.6 in (127 x 91 x 41 mm)
	Weight	12 oz
Motor	Type	Two-phase hybrid permanent magnet, 1.8°
	Number of Leads	4, 6, or 8
	Inductance Range	0.2 mH-80 mH

* Drive shuts down in conditions listed. Power must be cycled or drive reset to resume operations.

See Servo Drive section for the full line of Gemini servo drives and drive/controllers.

Catalog 8000-4/USA

Specifications

E SERIES

OS Series Motor Specifications Size 23 Frame		E-DC		E-AC			
Parameters		OS2HA	OS21A	OS22A	OS2HB	OS21B	OS22B
Static torque	oz-in (Nm)	49.1 (0.35)	114 (0.81)	186 (1.31)	61.35 (0.43)	126.5 (0.84)	238 (1.68)
Rotor Inertia	oz-in ² (kg-cm ²)	0.39 (0.07)	0.66 (0.12)	1.39 (0.25)	0.39 (0.07)	0.66 (0.12)	1.39 (0.25)
Drive Current App. (Arms)	Series Parallel	3.0 (2.12) NA	4.8 (3.39) NA	4.8 (3.39) NA	1.76 (1.24) 3.25 (2.30)	1.88 (1.33) 3.5 (2.47)	2.38 (1.68) 3.5 (2.47)
Phase Inductance (mH)	Series Parallel	1.7 NA	1.8 NA	2.8 NA	8.6 2.2	12 3	16.6 4.2
Detent Torque	oz-in (N-m)	2.5 (0.02)	4.0 (0.03)	7.0 (0.05)	2.5 (0.02)	4.0 (0.03)	7.0 (0.05)
Bearings Information							
Thrust Load	lb (kg)	13 (5.9)	13 (5.9)	13 (5.9)	13 (5.9)	13 (5.9)	13 (5.9)
Radial Load	lb (kg)	20 (9.1)	20 (9.1)	20 (9.1)	20 (9.1)	20 (9.1)	20 (9.1)
End Play (Reversing load equal to 1 lb)	in (mm)	0.001 (0.025)	0.001 (0.025)	0.001 (0.025)	0.001 (0.025)	0.001 (0.025)	0.001 (0.025)
Radial Play (Per 0.5 lb load)	in (mm)	0.0008 (0.02)	0.0008 (0.02)	0.0008 (0.02)	0.0008 (0.02)	0.0008 (0.02)	0.0008 (0.02)
Motor Weight	lb (kg)	1 (0.5)	1.5 (0.7)	2.5 (1.1)	1 (0.5)	1.5 (0.7)	2.5 (1.1)
Certifications	UL recognized CE (LVD) CE (EMC & LVD)	Pending Yes No	Pending Yes No	Pending Yes No	Pending Yes No	Pending Yes No	Pending Yes No

See Servo Drive section for the full line of Gemini servo drives and drive/controllers.

Catalog 8000-4/USA

Specifications

E SERIES

VS Series Motor Specifications Size 17, 23 and 34 Frame

Parameters		Size 17 Frame		Size 23 Frame			Size 34 Frame	
		VS12B	VS13B	VS21B	VS22B	VS23B	VS31B	VS32B
Static torque - E-AC	oz-in (Nm)	55.27 (0.39)	72.8 (0.51)	115.5 (0.82)	194.5 (1.37)	334.5 (2.36)	551.8 (3.90)	1269.67 (8.97)
	oz-in (Nm)	58 (0.41)	81 (0.57)	115 (0.81)	156 (1.10)	330 (2.33)	442 (3.12)	664 (4.69)
Rotor Inertia	oz-in ² (kg-cm ²)	0.3 (0.054)	0.37 (0.068)	0.66 (0.12)	1.64 (0.3)	2.62 (0.48)	7.65 (1.4)	14.8 (2.7)
	Series	1.0 (0.71)	1.01 (0.71)	2.26 (1.6)	2.01 (1.42)	2.01 (1.42)	3.0 (2.12)	3.13 (2.21)
Drive Current Apk (Arms) - E-AC	Parallel	2.0 (1.42)	2.02 (1.43)	3.5 (2.47)	3.5 (2.47)	3.5 (2.47)	3.5 (2.47)	3.5 (2.47)
	Series	NA	NA	NA	NA	NA	NA	NA
Drive Current Apk (Arms) - E-DC	Parallel	3.0 (2.12)	3.0 (2.12)	4.8 (3.39)	4.0 (2.83)	4.8 (3.39)	4.8 (3.39)	4.8 (3.39)
	Series	12.8 (3.2)	11.2 (2.8)	5 (1.25)	12 (3.0)	15.4 (3.85)	15.8 (3.95)	25.0 (6.25)
Phase Inductance (mH)	Parallel	12.8 (3.2)	11.2 (2.8)	5 (1.25)	12 (3.0)	15.4 (3.85)	15.8 (3.95)	25.0 (6.25)
	Series	12.8 (3.2)	11.2 (2.8)	5 (1.25)	12 (3.0)	15.4 (3.85)	15.8 (3.95)	25.0 (6.25)
Detent Torque	oz-in (N-m)	2.5 (0.02)	4.0 (0.03)	7.0 (0.05)	8.8 (0.06)	18.0 (0.13)	27.0 (0.19)	50 (0.35)
	Series	2.5 (0.02)	4.0 (0.03)	7.0 (0.05)	8.8 (0.06)	18.0 (0.13)	27.0 (0.19)	50 (0.35)
Bearings Information								
Thrust Load	lb (kg)	11.0 (5)	11.0 (5)	17.6 (8)	17.6 (8)	17.6 (8)	35.3 (16)	35.3 (16)
	Series	11.0 (5)	11.0 (5)	17.6 (8)	17.6 (8)	17.6 (8)	35.3 (16)	35.3 (16)
Radial Load	lb (kg)	7.7 (3.5)	7.7 (3.5)	15.0 (6.8)	15.0 (6.8)	15.0 (6.8)	30.9 (14)	30.9 (14)
	Series	7.7 (3.5)	7.7 (3.5)	15.0 (6.8)	15.0 (6.8)	15.0 (6.8)	30.9 (14)	30.9 (14)
End Play (with 2.2 lbs axial load)	in (mm)	0.003 (0.075)	0.003 (0.075)	0.003 (0.075)	0.003 (0.075)	0.003 (0.075)	0.0032 (0.080)	0.0032 (0.080)
	Series	0.003 (0.075)	0.003 (0.075)	0.003 (0.075)	0.003 (0.075)	0.003 (0.075)	0.0032 (0.080)	0.0032 (0.080)
Radial Play (with 1.1 lb radial load)	in (mm)	0.001 (0.025)	0.001 (0.025)	0.001 (0.025)	0.001 (0.025)	0.001 (0.025)	0.0008 (0.020)	0.0008 (0.020)
	Series	0.001 (0.025)	0.001 (0.025)	0.001 (0.025)	0.001 (0.025)	0.001 (0.025)	0.0008 (0.020)	0.0008 (0.020)
Motor Weight	lb (kg)	0.55 (0.25)	0.77 (0.35)	1.03 (0.47)	1.54 (0.7)	2.2 (1.0)	3.86 (1.75)	6.18 (2.8)
	Series	0.55 (0.25)	0.77 (0.35)	1.03 (0.47)	1.54 (0.7)	2.2 (1.0)	3.86 (1.75)	6.18 (2.8)
Certifications	UL recognized	No	No	No	No	No	No	No
	Series	No	No	No	No	No	No	No

Catalog 8000-4/USA

Speed-Torque Curves

E SERIES

Motor Speed-Torque Performance Curves

E-DC Drive with OS and VS Series motors, 17, 23 and 34 frame

