

REQUEST FOR INFORMATION FOR GOODS AND SERVICES

PM

**ONDERSTEPOORT BIOLOGICAL PRODUCTS LTD
PRIVATE BAG X7, ONDERSTEPOORT 0110**

From: Supply Chain Department
Date: 28 July 2026 – 10 August 2026
Tel: 012 522 1500
Fax: N/A
Email: purchasing@obpvaccines.co.za

To:
Supplier:
Tel:
Fax:
Email:

**REQUEST FOR INFORMATION - PILOT FERMENTER FOR BACTERIAL PROPAGATION FOR
ONDERSTEPOORT BIOLOGICAL PRODUCT**

Kindly provide Information for the following: RFI/OBP006/2026/27

COMPULSORY/MANDATORY	
Company/ Individual Profile	That highlights years' relevant experience and capabilities In supplying Pilot fermenter for bacterial propagation.
Proposal	Detailed proposal to include pricing and specification etc.
Additional Notes	All Bidders must be registered on CSD (Central Supplier Database)
Non - Compulsory Site briefing	None

TERMS OF REFERENCE: REQUEST FOR INFORMATION - REQUEST FOR INFORMATION - PILOT FERMENTER FOR BACTERIAL PROPAGATION FOR ONDERSTEPSPOORT BIOLOGICAL PRODUCT

1. INTRODUCTION

Onderstepoort Biological Products SOC Ltd (OBP) is a South African state-owned animal vaccine manufacturing company whose mandate is to manufacture animal vaccines with the aim of preventing and controlling animal diseases that impact food security, human health and livelihoods. The mandate is delivered through continued development of innovative products and efficient manufacturing, which ensures vaccine affordability and accessibility through varied distribution channels.

2. PROJECT BACKGROUND & OBJECTIVE

The objective of this Request for Information (RFI) is to identify and survey experienced market service providers capable of supplying, installing, commissioning, validating, and supporting a 40 – 60L Reusable Fermenter. As a public entity operating under the PFMA, this institution requires high-specification, GMP-compliant infrastructure capable of meeting rigorous bioprocess demands up to Biosafety Level 2 and 3 (BSL 2 and 3) containment. Responses received will be utilized to refine technical specifications, understand market availability, structure future pricing models, and establish realistic delivery timelines prior to formal competitive bidding.

Respondents are requested to complete the following specification matrix by indicating Yes or No regarding their capability to fulfill the requirement, alongside brief technical notes or reference documentation cross-references.

Item / Parameter	Specification Required	Comply (Yes)	Comply (No)	Respondent Comments / Reference
Fermenter Vessel Requirements				
Total Volume (L)	40 - 60 Liters			
Working Volume (L)	Min Working Volume ~25% of vessel volume;			
	Max Working Volume ~75% of vessel volume.			
Vessel Type	Water-jacketed or double-jacketed with insulation.			

Automatic Temperature Control	Automatic sterilization; PID control with water jacket heat exchanger (or heater) and circulation loop.			
	• Measurement: Pt-100 sensor in thermo-well in top plate.			
	• Control: Cooling/heating jacket via fermenter wall or internal heat exchanger.			
Exhaust Condensation	Water-cooled, baffled design exhaust condenser.			
Top Plate Connections	Pressure Sensor, Aseptic inoculation valve ("Steam-to-Valve" sterile design), Pressure gauge, Foam sensor port, Exhaust port & condenser, Agitation (top drive only), Level sensor light, Sparger port, Safety valve, and a minimum of two (X2) Spare ports.			
Pressure Control	Automatic back pressure control.			
Pressure Sensor	Flush-mount 316L diaphragm; 4-20mA output; SIP-rated (up to 135°C).			
Safety Valve	• Output Type: Mechanical Set-Point (typically 10% above MAWP).			
	• Sensor Tech: Spring-Loaded Diaphragm.			
	• Accuracy: $\pm 3\%$ of set pressure.			
	• Housing: 316L Stainless Steel with a weather-shroud.			
	• Connection: 1.5" or 2" Tri-Clamp.			
Upper Side Wall	Minimum 3 media ports, 1 gas overlay port, and minimum two (X2) Spare ports.			

Lower Side Wall	Sampling device, pH sensor, Dissolved Oxygen (DO) sensor, temperature sensor (Pt-100), Turbidity sensor, Redox (ORP) Sensor, and minimum one (X1) Spare port.			
Baffles	Flat paddle $\approx$ 10% of vessel internal diameter.			
Level Control	Electrode type Hi/Low level control load cell type, weight control.			
Weight Measurement	Load cell Gravimetric system.			
Agitation System				
Top Drive	3-4 Rushton impellers on a single shaft.			
Speed Range	20 – 1500 Revolutions Per Minute (rpm).			
Mechanical Seal	Double mechanical seal.			
Drive System	Direct drive or magnetically coupled automatic agitation control.			
Aeration & Gas Mix				
Gas Sparger	Automatic aeration control through Mass Flow Controller (MFC).			
Overlay Flow Control	Thermal Mass Flow Controller (TMFC).			
Gas Flow Dynamics	Mass Flow Controller (MFC) + bypass rotameter; Flow rate minimum of 1 Vessel Volume per Minute (1 vvm).			
Pressure Control	Automatic back pressure control.			
Pressure Sensor	Flush-mount 316L diaphragm; 4-20mA output; SIP-rated (up to 135°C).			
Safety Valve	• Output Type: Mechanical Set-Point (typically 10% above MAWP).			
	• Sensor Tech: Spring-Loaded Diaphragm.			

	• Accuracy: $\pm 3\%$ of set pressure. • Housing: 316L Stainless Steel with a weather-shroud. • Connection: 1.5" or 2" Tri-Clamp.			
Upper Side Wall	Minimum 3 media ports, 1 gas overlay port, and minimum two (X2) Spare ports.			
Lower Side Wall	Sampling device, pH sensor, Dissolved Oxygen (DO) sensor, temperature sensor (Pt-100), Turbidity sensor, Redox (ORP) Sensor, and minimum one (X1) Spare port.			
Baffles	Flat paddle $\approx 10\%$ of vessel internal diameter.			
Level Control	Electrode type Hi/Low level control load cell type, weight control.			
Weight Measurement	Load cell Gravimetric system.			
Agitation System - Top Drive	3-4 Rushton impellers on a single shaft.			
Agitation Speed Range	20 – 1500 Revolutions Per Minute (rpm).			
Mechanical Seal	Double mechanical seal.			
Drive System	Direct drive or magnetically coupled automatic agitation control.			
Aeration & Gas Mix - Gas Sparger	Automatic aeration control through Mass Flow Controller (MFC).			
Overlay Flow Control	Thermal Mass Flow Controller (TMFC).			
Gas Flow Dynamics	Mass Flow Controller (MFC) + bypass rotameter; Flow rate minimum of 1 Vessel Volume per Minute (1 vvm).			
4. Analytical Instrumentation & Probes				
pH Probe Requirements	• Range: pH 0 – 12.			
	• Temperature: 0–100°C (operation), 130 $\pm 5^\circ\text{C}$ (sterilization).			
	• Pressure: Max 2.5 bar (36 psi).			

	• Reference System: Silver/Silver Chloride (Ag/AgCl). • Electrolyte: Pressurized gel electrolyte. • Diaphragm: 1 ceramic diaphragm. • Shaft & Thread: 12mm Glass shaft, K8S Plug head, Pg 13.5 thread.			
pO₂ (DO) Probe Requirements	• Pressure range: 0.2 – 6 bar (measurement), Max 12 bar (mechanical resistance). • Temperature: 5 – 130 ±5°C with automatic RTD compensation. • Connection: VarioPin (IP68) straight cable; 25mm Ingold connection. • Materials: Silicone O-ring, Teflon/Silicone/Teflon membrane (steel mesh reinforced), 316L Stainless steel wetted parts (Ra < 0.4 µm). Quick disconnect body. • Electrochemical: Silver (Ag) Anode, Platinum (Pt) Cathode, Guard ring included. • Performance: Detection limit 6 ppb; Accuracy ≤ (1% + 6 ppb) in liquids; Response time 98% of final value < 90s; Signal 50–110nA; Residual signal in O₂-free medium <0.1% of ambient; Max flow error ≤ 5%. • Control: PID cascade control with agitation, feeding, and gas flow rate.			
Turbidity Probe Requirements	• Materials: 316L Stainless steel wetted parts (Ra < 0.4 µm); EPDM port seals. • Rating: Insertion depth suitable for 40-60L vessel; Pressure 10 mbar – 10 bar; Temp 5°C – 130 ±5°C (autoclavable).			

	• Optical: Near-Infrared (NIR) Backscatter or 180° Absorbance; Pulsed LED light source at 880 nm $\pm$ 10 nm; Silicon Photodiode detector with ambient light compensation. • Connection: Pluggable ASD-CC sensor cable (2m) on both sides.			
Temperature Probe Requirements	• Materials: 316L product-contact parts (0.8 μm electro-polished); EPDM O-rings; Aluminium die-casting terminal head. • Performance: Dual (2X) Pt100 RTD element, Class A accuracy; Working range -50°C to 150°C; Response time $t_{90} \leq$ 6 seconds in flowing water (0.4 m/s). • Transmitter: Digital output.			
Actuators	Up to 3 fixed speed pumps; Up to 4 mass flow controllers.			
Foam Level Probe	Conductivity-based point level sensor; 316L SS with PTFE/PEEK insulation; Sliding compression fitting (100mm to 400mm depth); SIP/CIP compatible (up to 135°C); Controller logic with programmable "Splash Delay" and "Antifoam Pulse" timer.			
Pressure Probe	Digital output type; Ceramic (Dry) sensor tech; Accuracy $\pm$ 0.1% Span; Die-Cast Aluminium housing (Epoxy Coated); 25mm Ingold or 1.5" Tri-Clamp connection.			
Redox Electrode	Digital output type; Platinum (Pt) Ring/Disk with pressurized/solid-polymer reference; Accuracy $\pm$ 1 mV to $\pm$ 5 mV; 316L SS body with VP8 (VarioPin) connector; 25mm Ingold side-wall port connection.			

Peripheral - Inoculation Port	Steam Block Manifold and septa consisting of a rubber plug housed within a fitting through the head plate.			
Peripheral - Inoculation Needle	Manual or mechanical actuation; 316L Stainless Steel (Non-Coring); Wetted surface 0.8 µm; Working temp -50°C to 200°C; EPDM O-rings.			
Peripheral - Sampling Device	Steam-In-Place (SIP) Sampling Valve with an incorporated Sampling Steam Block.			
Peripheral - Manometer	Mechanical Gauge: Diaphragm Manometer, 1 to 3 bar, Glycerine-filled, Tri-Clamp connection with EPDM O-rings.			
Containment - Risk Management	Design must contain low-risk (BSL1), medium-risk (BSL2), and high-risk (BSL3) microorganisms safely.			
Software - Process Control	Generic process control software with full licenses/passwords. SCADA architecture with 21 CFR Part 11 compliance (full audit trails & electronic signatures).			
Software - Safety Interlocks	Automated "Hard-Stops" for overpressure, motor stall, and low-level batch conditions.			
Software - Maintenance	Software tracking of cycle counts for EPDM seals and filter pressure differentials.			
5. Lifecycle Execution, Validation & Quality Systems				
Qualification: DQ	Design Qualification (DQ): Provision of mechanical/MOC certificates, General Arrangement (GA) layouts, dimensional drawings, Functional Design Specifications (FDS), and a detailed Traceability Matrix mapping user requirements to design features.			

Qualification: IQ	Installation Qualification (IQ): Authoring and executing IQ protocols inclusive of warranty registrations, user manuals, calibration certificates, and certificates of material construction.			
Qualification: OQ	Operational Qualification (OQ): Authoring and executing OQ test protocols, utilizing certified test instruments, and deploying initial training elements.			
Qualification: PQ	Performance Qualification (PQ): Provision of on-site technical support during the active PQ window. Final system acceptance will depend on 3 consecutive successful "Media Fill" or "Live Run" batches meeting all Critical Quality Attributes (CQAs).			
Software Validation	Suppliers must confirm adherence to GAMP 5 frameworks, yielding a Software Design Specification (SDS) mapping code directly to the 4 MFCs and 3 pumps logic.			
Audit Trail Verification	Methods capturing all real-time "Set Point" alterations within an unalterable validation structure.			
Backup & Recovery	Documented disaster-prevention scenarios proving data persistence through a hard system reboot.			
Software IQ/OQ Checks	Explicit functional checks covering 100% of defined safety interlocks.			
Training: Operational	Operational (User Level): Covering aseptic mastery of the 316L non-coring needles, SIP sampling valves, thermal transitions (-50°C to +200°C), and interpretation of the 6 digital probes			

	alongside the manual manometer.			
Training: Maintenance	Engineering & Maintenance (Technical Level): Focusing on hands-on calibration of Class A RTDs, MFC drift monitoring, performing Pressure Decay Tests, HEPA filter integrity checks, and peroxide-cured EPDM seal swops.			
Training: Software Admin	Software & Admin (Compliance Level): HMI/SCADA management delivered by a GAMP 5 certified specialist. Must feature simulated fault training, 3-pump step-up profiling, 4-MFC gas ratio mixing, 21 CFR Part 11 electronic signature workflows, and BSL3 "Emergency Quench / Kill-Recipe" execution (forcing a stable +4°C hold).			
6. Support, Sustainability & South African Context				
SCM Registration	Active, compliant profile on the National Treasury Central Supplier Database (CSD) and a valid SARS tax clearance status.			
Warranty & SLA	5-year comprehensive warranty inclusive of all planned preventative maintenance (PM) costs, probe replacements, and calibration to safeguard public expenditure.			

Spares Security	Initial critical spares (O-rings, seals, replacement probes, exhaust filters) on-site before validation begins; 10-year guarantee on critical BSL3 spares from a regional SA depot within 48 hours.			
Local Infrastructure	Direct access to a local technical partner or factory-trained engineer capable of responding to the site within 24–48 hours for critical BSL3 failures.			
Grid Resilience	Compatibility with SA electrical standards (230V/400V @ 50Hz). Equipment must feature built-in industrial surge protection and a dedicated PLC/controller UPS capable of maintaining data integrity and control functionality for at least 30 minutes during local grid instability/load shedding.			
Quality Heritage	ISO 9001 certification and CE/ASME rating for any pressurized modules, paired with a 5–10 year global/local track record supplying benchtop/pilot systems to the pharmaceutical, academic, or vaccine sectors.			
Language Standards	All interface layouts, physical manuals, and validation sheets must be authored in English.			

3. REQUEST FOR INFORMATION PROCESS

The overall objective of the RFI is to identify what Pilot fermenter for bacterial propagation item is available in the market that are aligned with the requirements of OBP.

The RFI process is aimed at soliciting information/solution solutions to:

- Survey the market to identify potential service providers available in the marketplace
- Provide a specification and cost estimation/budget.

4. GENERAL

4.1 CONFIDENTIALITY

OBP shall:

- Use its reasonable endeavours to keep all data and details submitted by responding parties strictly confidential, save to the extent that such data or details are required to be disclosed by applicable law or order of a court of competent jurisdiction; be entitled to disclose all data and details to their officers, employees, agents, advisors and representatives who are involved in the project and the evaluation of the responses; and
- Not be liable for any loss incurred or damage suffered as a result of any disclosure of any information (confidential or otherwise) of the responding party. The responding parties shall not have, and hereby waives, any claim against OBP arising out of the disclosure of any information, confidential or otherwise.

4.2 RESERVATION OF RIGHTS

- OBP reserves the right, to use information submitted in response to this RFI for the purpose of compiling and aggregating data for public release, related to the information submitted, without mentioning / identifying specific parties.
- OBP reserves the right to verify any information contained in a response to this RFI; and OBP reserves the right to cancel or withdraw this RFI as a whole or in part.

4.3 CONTACT INFORMATION AND CLARIFICATIONS

- Interested parties are free to request clarifications from, or engage directly with, the team via email at purchasing@obpvaccines.co.za

5. CLOSING DATE

- The RFI closing date and time is on the **10th of August 2026 @15:00**,
- All bidders MUST register their company (in advance) on the NEW OBP's EProcurement portal, the link can be found on the official OBP website under supply chain.
- Once bidders account registration is approved by the OBP Supply Chain, login credentials will be supplied, whereby bidders will be able to login and apply for opportunities.
- All open opportunities will reflect on the portal for bidders to part take in.
- All required company documents, proposed submissions or additional requirements MUST be uploaded with your bid application.
- Any additional questions or Queries can be directed via email (purchasing@obpvaccines.co.za) or telephone (012 522 1500), note NO SUBMISSIONS WILL BE ACCEPTED via EMAIL.