
For: Agriculture and Agri-Food Canada (AAFC)

An Advance Contract Award Notice (ACAN) is a notification through the open bidding methodology of the intent to award a directed contract.

An Advance Contract Award Notice (ACAN) allows departments and agencies to post a notice, for no less than fifteen calendar days, indicating to the supplier community that it intends to award a good, service or construction contract to a pre-identified contractor. If no other supplier submits, on or before the closing date, a statement of capabilities that meets the requirements set out in the ACAN, the competitive requirements of the government's contracting policy have been met. Following notification to suppliers not successful in demonstrating that their statements of capabilities meets the requirements set out in the ACAN, the contract may then be awarded using the Treasury Board's electronic bidding authorities.

If other potential suppliers submit Statements of Capabilities during the fifteen calendar day posting period, and meet the requirements set out in the ACAN, the department or agency must proceed to a full tendering process on either the government's electronic tendering service or through traditional means, in order to award the contract.

Applicability of trade agreements and other obligations:

N/A

Objective of the ACAN:

AAFC wishes to establish a service contract in order to Develop two rumen simulation systems totally compatible with existent units used at AAFC Lethbridge facility. The essential purpose of this contract is the building of two unit rumen simulation systems.

Statement of work:

Development of two rumen simulation systems totally compatible with existent units used at AAFC Lethbridge facility.

1.0 Background

Agriculture and Agri-Food Canada requires the building of a unit rumen fermentation stimulation unit for the culturing of rumen microbes and the measurement of fermentation of animal feeds.

Agriculture and Agri-Food Canada used at this Lethbridge facility an experimental setup built D & D Machine Works Ltd. AAFC needs to purchase exact copies of this unit to be able compare experimental results.

2.0 Objective

Development of two rumen simulation systems comprised of water baths each with 8 acid resistant, air-tight vessels with an inner chamber and a central motor for agitation of the inner chamber, which stimulates of rumen fermentation and the growth of anaerobic microbial cultures.

As part of our research program to understand the role of the rumen microbiome in feed digestion, feed additive development and the production of antibiotic resistance related to dairy production, we would like to purchase the building of two units for the simulation of rumen fermentation for placement in our laboratory. The units in question must be built of non-corroding material, should be both water and air-tight, and must be self agitating. Consequently, the acquisition of this equipment will allow us to focus our research program, and provide critical data modelled with minimal use of animals. The Sherbrooke Research and Development Centre is the only Agriculture and Agri-Food Canada research center with a mandate to work on dairy cattle. Our collaboration partners at the Lethbridge Research and Development Centre, in Alberta are working with beef cattle using a similar system. The acquisition of such equipment will consolidate AAFC's research work to help the dairy sector and provide a basis for collaboration across Canada while increasing productivity.

In order to meet our needs, the unit must be built for placement on a table, able to withstand long term exposure to acids (pH 3-6) without corrosion, be water proof and air-tight so as to create an anaerobic space. Each chamber requires a second porous inner vessel that is attached to a motor for vertical movement (Fig. 1).

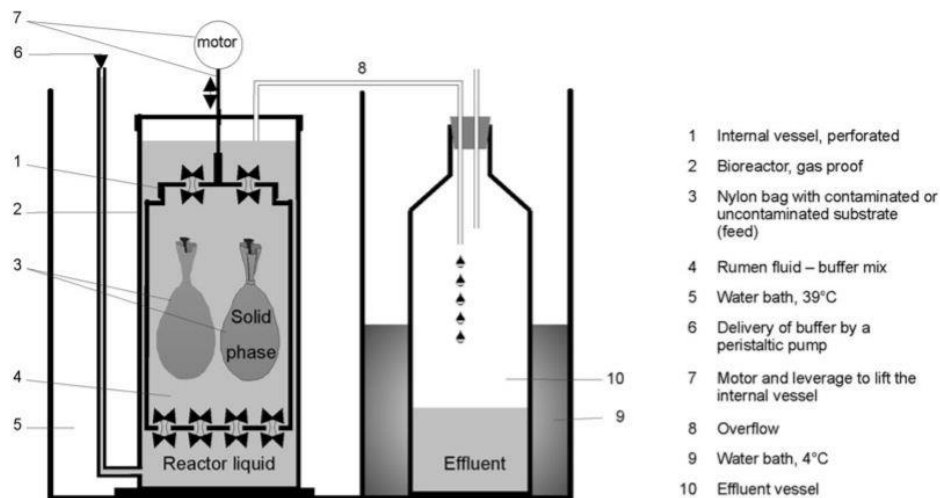


Fig. 1. Schematic representation of the rusitec invitro fermentation system

3.0 Mandatory Technical Specifications:

DIY Rusitec System: Manufacture 2 Rusitec Machine based on the following scope of components; see Fig. 2 for diagram of device

- two mild steel frame measuring approximately 25.50" x 18.75" x 31.50"
- material finished in powder coat black
- two mild steel tank with stainless steel liner
- mild steel portion finished in powder coat blue
- two aluminum top drive plate assembly complete with clevises, hardened guide rods, and inial bearings
- bearing housings finished in powder coat black
- two eight compartment bottom Rusitec Chamber Holding Plate manufactured from Polymer material
- two drive shaft assembly complete with bearing blocks and eccentric flywheels

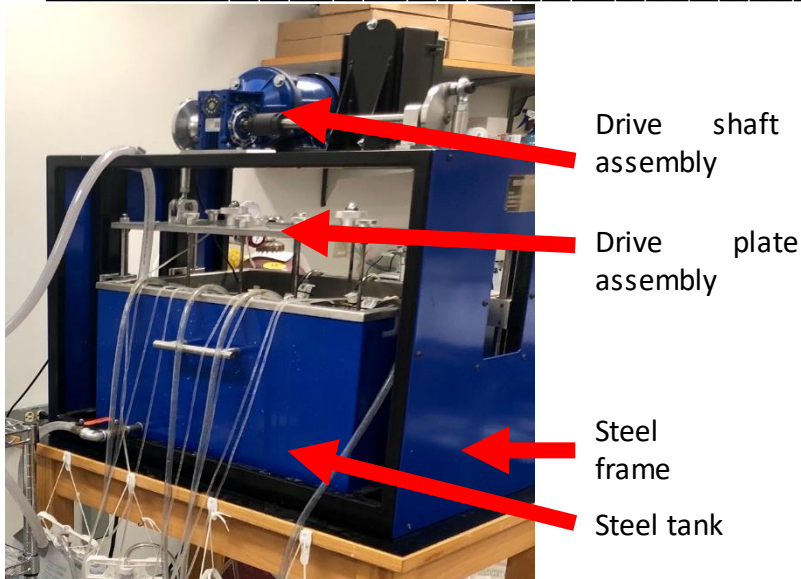


Fig. 2. External set-up diagram

Sixteen Rusitec Chamber assemblies including (see Fig. 3 for internal chamber design):

- Clear Plastic Chamber
- Type 6 Nylon Bottom plate
- Type 6 Nylon Top Plate
- Type 6 Nylon Top Retaining Plate
- Grade 316 stainless steely packing housings and cylinder rods
- Grade 360 brass packing glands
- Grade 6061 T6 aluminum retaining nuts
- supply electrical and mechanical drive components

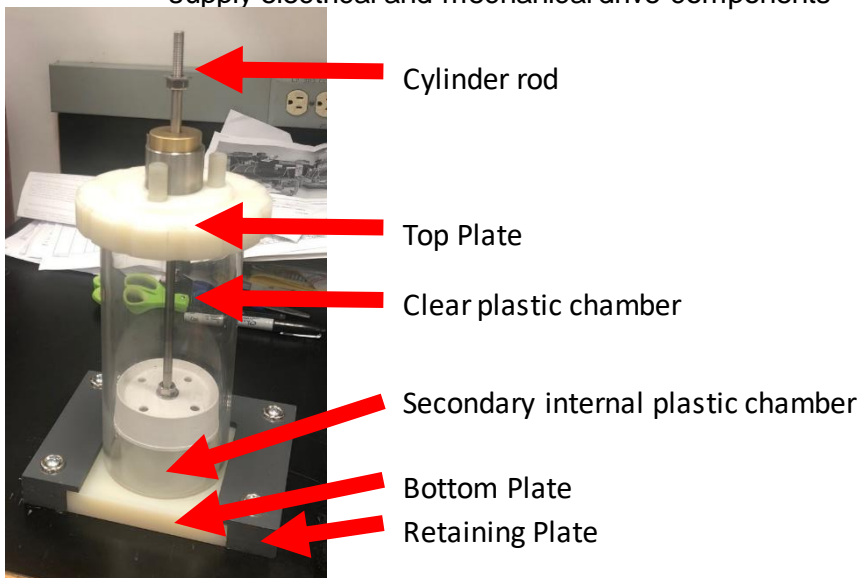


Fig. 3. Internal chamber design with labelled components

4.0 Deliverable(s)

1. A shop drawing of the assembly for approval prior to production.
2. The device must be water-tight and made of acid-resistance materials

3. This device must be powered for vertical agitation of the inner vessels
4. This device must contain acid-resistant, air-tight outer vessels with 3-5 valves for the attachment of hoses.
5. Each outer vessel should hold 700mL-1000mL.
6. This device must be able to sit on top of a table.
7. Unit are powered by 115V/15A/60Hz circuit with American standard plug (NEMA L5-15P)

5.0 Delivery and installation

The units will be delivery at (all fees included):
Agriculture et Agro-Food Canada
Sherbrooke Research and Development Centre
2000, rue College
Sherbrooke (Qc) J1M 0C8

The supplier will supply technician for the installation on site and the start-up.

Security requirements

There is no security associated with the work

Duration/period of the contract:

The expected duration of the contract is from the contract award date until March 31, 2022.

Estimated value:

The total amount of the contract is estimated at \$52,804.96 + taxes.

Method of Payment

Payment will be made in full upon completion of the work described herein, following the submission of all invoicing documentation.

Proposed supplier:

D & D Machine Works Ltd
3010 6th Avenue North
Lethbridge, AB T1H 5C3
Canada

Sole source justification:

D & D Machine Works Ltd. is the only source for this system as it is not a manufactured system that is mass produced, but instead there are only a handful in the world all with unique designs. The design from D & D Machine Works Ltd is proprietary and without these specifications the system will not be the same as our research partners at AAFC in

Lethbridge, which means we can do collaborative research and ensure that the methodology is not a source of variation as we will have the same system. The original purchase of our partners system in Lethbridge was not a competitive process as D & D Machine works was the only company with a design. Since this system has many components which must be designed specifically and function together, there are no other companies that are able to provide this one-of-a-kind design.

Suppliers' right to submit a Statement of Capabilities:

Suppliers who consider themselves fully qualified and available to provide the services described herein, may submit a statement of capabilities in writing to the contact person identified in this Notice on or before the closing date of this Notice. The statement of capabilities must clearly demonstrate how the supplier meets the stated requirements.

Closing date for the submission of the Statement of Capabilities:

On August 20, 2021, 2:00pm (EDT)

Inquiries and Submission of Statements of Capabilities: requests for information shall be submitted **BY EMAIL** to the contracting authority:

aaafc.escprocurement-cseapprovisionnement.aac@agr.gc.ca

