# ABCA2 Installation Acceptance Certificate

| | |
|---|---|
| Job no.: | IN1228 |
| Customer: | Muscat Pharmacy & Stores LLC |
| Address | Royal Hospital, Dept of Bio-Chemistry, PO Box 1331, Al Ghoubra, PC 111 Sultanate of Oman |
| Contact: | Dinesh Rajadhyaksha |
| System: | ABCA2 |
| ABCA2 Serial Number | 20602/1-2020/1228 |
| Gas Box Serial Number | 10602/2020/1228 |
| Autosampler Serial Number | 071905A7400HR |
| Software: | V800. 1. 0. 24398 |
| Engineer: | LEE MARTIN (Local engineer Buchi Babu on site) |
| Installation Start Date: | 10-AUG-21 |
| Installation Completion Date: | 24-AUG-21 |
| Maintenance Required by Date: | 24-AUG-22 |
| Delivery Date: | |
| Warranty Commences: | 25-AUG-21 |
| Warranty Expires: | 25-AUG-22 |
| Consignor: | Sercon Limited<br>Unit 3B, Crewe Trade Park<br>Gateway<br>Crewe<br>CW1 6JT U.K. |
| Outstanding Installation Requirements: | None |

**I hereby agree that the installation has been completed and meets the manufacturer's specifications and that basic training has been provided**.

| | | | |
|---|---|---|---|
| Customer Acceptance | | Date: | 28-Sep-21 |
| Engineer's Signature | lmartin | Date: | 28-Sep-21 |

| $^{13}C$ | | | |
|---|---|---|---|
| Ref Gas Injection Precision | 100% $CO_2$ (n=5) | ≤0.1‰ | Observed Precision: **0.08 ‰**<br>Pass/Fail: **Pass**<br>Sheet Number: **03** |
| Ref gas in tubes precision | 5% $CO_2$ in Exetainers (n=5) | ≤0.1‰ | Observed Precision: **0.06 ‰**<br>Pass/Fail: **Pass**<br>Sheet Number: **05** |
| Breath Precision | Breath in Exetainers (n=5) | ≤0.2‰ | Observed Precision: **0.09 ‰**<br>Pass/Fail: **Pass**<br>Sheet Number: **04** |
| Sensitivity | 5% $CO_2$ in Exetainers | Major beam 5e-9 with trap of 150 | Observed Sensitivity: **11nA**<br>Pass/Fail: **Pass**<br>Sheet Number: **06** |
| Linearity | 0.5 to 8.0% $CO_2$ in Helium: Exetainers | ≤0.5 ‰ change | Observed Linearity: **0.28 ‰**<br>Pass/Fail: **Pass**<br>Sheet Number: **07** |
| Peak Shape | Beam 1,2 and 2/1 | Minimum 5V wide 2/1. Gradient acceptable due to single turbo pump | Observed Peak Shape: **Pass**<br>Pass/Fail: **Pass**<br>Sheet Number: **01** |
| Stability | 2/1 ratio over 600 seconds | Flat, no spikes or variations. Slight gradient acceptable | Observed Stability: **Pass**<br>Pass/Fail: **Pass**<br>Sheet Number: **02** |

| **Special Tests** |
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| **Specification Acceptance** | | | |
|---|---|---|---|
| Engineer Signature: | RKameny | Date: | 24/08/21 |
| Customer Signature: | | Date: | |

**Sercon Ltd**
Unit 3B Crewe Trade Park
Gateway, Crewe, Cheshire
CW1 6JT United Kingdom
Phone: +44 (0)1270 580008
Email: info:sercongroup.com
**www.sercongroup.com**
Registered in England and Wales 4290072. VAT No.: GB 771 1100 74

# Customer Training Checklist

**Tuning Parameters:**

- What do they mean with respect to what is actually happening in the source?
- How do they affect peak shape, sensitivity and stability?

**Gas Box and ASX7400 overview.**

- Describe the sample pathway for tube injection, internal ref gas loop loading, ref gas pulse
- Adjusting the autosampler bed layout
- Replacing the needle
- Leak Checking

**Running Samples**

- How to create the sample list? BCR vs Disk File
- Choosing the correct references and method set up for your application, from tube, ref gas pulse, internal loop loading.
- Event files, when to modify them and how
- Timings, how to adjust the timings to ensure the sample peak is completely integrated
- Measuring and setting the helium flow; valco and syringe.
- Report set up, drift/undrift corrected

**The Gas Handling**
**Routine Maintenance:**

- Discuss routine maintenance, including filament and oil change, using the manual as a reference guide.

- A physical demonstration of replacing the needle.

| **Training Completed** | | | |
|---|---|---|---|
| Engineer Signature: | | Date: | |
| Customer Signature: | | Date: | |

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**Details of Visit:**

10-Aug-21

ABCA2, autosampler and PC already placed on bench. Units all powered up and comms established.

Rotary pump filled with oil and connected up. Magnet fitted. Vacuum pumps switched on. Slow to pump but the year spent in a box could be the reason for this. Instrument left to pump overnight with a vacuum of 6.1e-06mbar reached before leaving.

11-Aug-21

Vacuum of 1.6e-07mbar reached overnight. Source switched on with emission ok. Magnet tuning conducted with acceptable peak shape attained. Stability also ok.

Decision made to postpone the install as onsite engineer does not have the means to prepare batches for further testing. This will also allow for further pumping of the instrument and settling time for the filament.

Linearity and 5% CO2 in tube precision batches sent to the customer along with a 12ml exe needle and union to flush vials.

Autosampler aligned before concluding the session.

23-Aug-21

Install continued after delivery of samples. Vacuum of 1.0e-08mbar reached. Tuning and magnet optimised in order to pass linearity. This has been achieved, albeit with a reused batch. Engineer to prepare 2 more batches for final specifications.

24-Aug-21

Final specifications complete

**Recommendations:**

None

**Faults and Shortages:**

None

## Additional Parts Used:

| Part Description | Part Code | Cost |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

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| | | |
|---|---|---|
| | | |

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**www.sercongroup.com**
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# Invoice

**Invoice to:**

Muscat Pharmacy & Stores LLC
PO Box 438
Postal Code 113
MUSCAT
SULTANATE of OMAN

VAT Reg No:

| | |
|---|---|
| **Invoice No.** | 13572 |
| **Invoice/Tax Date** | 10/07/2020 |
| **Due Date** | 09/08/2020 |
| **Account No.** | |

**Customer Order No.** 201892/DBR/DGRH/T-29

**Sales Order No.** 13133
IN1228

| Quantity | Product Code | Product Description | Unit Price £ | Net Amount £ | VAT Rate % | VAT Amount £ |
|---|---|---|---|---|---|---|
| | | AGENTS PRICES<br>Customer: Royal Hospital<br>ABCA2 | | | | |
| 1 | 20602 | Complete Sercon ABCA2 system **Commodity Code 90273000** | 48,000.00 | 48,000.00 | 0.00 | 0.00 |
| 1 | SI1767 | CVL505 – Barcode Reader C**ommodity Code 90273000** | 720.00 | 720.00 | 0.00 | 0.00 |
| 1 | WARR | 1 year warranty | | | | |

**Delivery address:**
Dinesh Rajadhyaksha
PO Box 438
Postal Code 100
MUSCAT
Sultanate of OMAN

**This invoice is issued in:**

| | | |
|---|---|---|
| **Total Net Amount** | **£** | **48,720.00** |
| **Shipping Charges** | **£** | |
| **Total VAT Amount** | **£** | **0.00** |
| **Invoice Total** | **£** | **48,720.00** |

**Payment Details:-**
Payment is required within 30 DAYS of invoice date by bank Transfer.
All bank transfer charges are the responsibility of the customer.
Bank transfer to be made to the relevant IBAN number.
For credit card payments phone: +44 (0)1270 580008
**Intra-community supply, subject to VAT in the country of acquisition**

**Sercon Bank Details:-**
National Westminster Bank, 36 High Street
Nantwich, Cheshire CW8 5GA U.K.
Sterling: IBAN: GB74NWBK54101736755133
Euro: IBAN: GB14NWBK60721013806831
US Dollar: IBAN: GB94NWBK60730113806556
BIC: NWBKGB2LXXX

Sercon Limited
Unit 3B Crewe Trade Park
Gateway, Crewe
CW1 6JT U.K.
Company Registration No.: 4290072

Phone: +44 (0) 1270 580008
Fax: +44 (0) 1270 252310
sales@sercongroup.com
**www.sercongroup.com**
VAT No.: 771 1100 74

# Invoice

**Invoice to:**

Muscat Pharmacy & Stores LLC
PO Box 438
Postal Code 113
MUSCAT
SULTANATE of OMAN

VAT Reg No:

| | |
|---|---|
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| **Invoice/Tax Date** | 10/07/2020 |
| **Due Date** | 09/08/2020 |
| **Account No.** | |

**Customer Order No.** 201892/DBR/DGRH/T-29

**Sales Order No.** 13133
IN1228

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|---|---|---|---|---|---|---|
| | | AGENTS PRICES<br>Customer: Royal Hospital<br>ABCA2 | | | | |
| 1 | 20602 | Complete Sercon ABCA2 system | 48,000.00 | 48,000.00 | 0.00 | 0.00 |
| 1 | SI1767 | CVL505 – Barcode Reader | 720.00 | 720.00 | 0.00 | 0.00 |
| 1 | WARR | 1 year warranty | | | | |

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PO Box 438
Postal Code 100
MUSCAT
Sultanate of OMAN

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sales@sercongroup.com
**www.sercongroup.com**
VAT No.: 771 1100 74

محلات وصيدلية مسقط ش م م
Muscat Pharmacy & Stores LLC

P.O. Box: 438, Muscat, P.C.: 100, Oman
Tel.: 968 24814501, Fax: 968 24815201/202
C.R. No.: 1/01091/3
E-mail : mphq@mpmct.com
Web : www.muscatpharmacy.net

# PURCHASE ORDER

| Supplier | Order Details |
|---|---|
| TO : SERCON LTD U.K. | Order Reference : 201892/DBR/DGRH/T-29 |
| ATTN : garry.armstrong@sercongroup.com | Date : 01/JULY/2020 |
| CC : dineshr@mpmct.com | Supplier Offer: REFER YOUR QUOTATION NUMBER: 13133 DATED 26/03/2019 AND YOUR SUBSEQUENT EMAIL DATED 14TH APRIL 2020. |

We are pleased to confirm our order for the following.;

| Ship Mode | Ship Terms | Currency | Forwarder | Shipment Arr. |
|---|---|---|---|---|
| AIR | EX-WORKS | GBP | Bollore Logistics | 01.08.2020 |

| Sl.No. | Catalog | Description | Pack | Qty | Price | Total |
|---|---|---|---|---|---|---|
| 1 | 20602 | ABCA2 SERCON AUTOMATED BREATH CO2 ANALYZER | SGL | 1 | 43,000.00 | 43,000.00 |
| 2 | S11767 | CVL505 BARCODE READER | SGL | 1 | 720.00 | 720.00 |
| 3 | INST | Installation & Training at Site for 4 days | | 1 | | 5,000.00 |
| | | TOTAL | | | | 48,720.00 |

Please arrange to handover the goods **in 1st Week of August 2020** to our freight forwarders **M/s. Bollore Logistics UK Ltd [Address below]** for onward despatch to us **by Airfreight.**

International Freight Forwarding Operator
Bolloré Logistics UK Ltd
Unit 1 Skyline, Great South West Road,
London Heathrow. TW14 8NT. United Kingdom
T +44 203 897 7851
F +44 203 897 7801
christopher.ali@bollore.com - www.bollore-logistics.com

Please ensure that :

- **Original Invoice, Packing List, Original Certificate of Origin [COO] must be sent by courier to enable us to clear the goods from customs.**
- Your original invoice states the name of manufacturer and country of origin.
- Your original packing list states the number of packages & gross weight.

The equipment should be rated for **240V / 50Hz +/- 7%** mains supply voltage and this should be labelled behind the equipment. As per the terms and condition of the customer, we would require one operator manual for the equipment.

Please ensure that the HS Code is stated for each item on your invoice. We will not be able to clear the goods from customs unless the HS codes are stated for each item.

Regards,

**Dinesh Rajadhyaksha**

CONSIGNEE:

Muscat Pharmacy & Stores LLC
P O Box 438
Postal Code 100
MUSCAT
SULTANATE of OMAN

Contact: Dinesh Rajadhyaksha
Tel: +968 24814501
Order Number: Dinesh Rajadhyaksha

SHIPPED BY:

Ref: 13133
IN1228

Sercon Limited
Unit 3B Crewe Trade Park
Gateway
Crewe
CW1 6JT
U.K.
Tel: +44 (0) 1270 580008

# COMMERCIAL INVOICE

Date: 10/07/2020

Customer Reference: Dinesh Rajadhyaksha

Shipper / Exporter:

Sercon Limited
Unit 3B Crewe Trade Park
Gateway
Crewe
CW1 6JT
UK

Contact: Joanne O'Connor
Tel: +44 (0) 1270 580008
Invoice Reference: 13133 IN1228

Delivery Address:

Muscat Pharmacy & Stores LLC
P O Box 438
Postal Code 100
MUSCAT
SULTANATE of OMAN

Contact Name: Dinesh Rajadhyaksha
Cust Tel Number: +968 24814501

Country of Export: UK
Country of Manufacture: UK
Country of Destination: OM Oman

Shipping Marks /

3 BOXES @ 230 KGS

UK Commodity Code: 90273000

| Quantity | Product Code | Product Description | Amount £ |
|---|---|---|---|
| | | AGENTS PRICES<br>Customer: Royal Hospital | |
| | | ABCA2 | |
| 1 | 20602 | Complete Sercon ABCA2 system UK Commodity Code: 90273000 | 43,000.00 |
| 1 | SI1767 | CVL505 - Barcode Reader UK Commodity Code: 90273000 | 720.00 |
| 1 | WARR | 1 year warranty | 0.00 |
| 1 | INST | Installation and start up training at Customer's site<br>4 days on site | 5,000.00 |

None of the goods contained in this consignment are restricted by IATA or shipping regulations

Total Invoice Value: £ 48,720.00

Signed .....J O'Connor.....

Sercon Limited
Unit 3B Crewe Trade Park
Gateway, Crewe
CW1 6JT U.K.
Company Registration No.: 4290072

Phone: +44 (0) 1270 580008
Fax: +44 (0) 1270 252310

www.sercongroup.com
VAT No.: 771 1100 74

13133
IN1228

# Order Acknowledgement

Order Date 08/07/2020

Order Ref. 13133

Cust. Ref. Dinesh Rajadhyaksha

Account Ref. MUS001

## Invoice address

Muscat Pharmacy & Stores LLC
P O Box 438
Postal Code 113
MUSCAT
SULTANATE of OMAN

VAT No.

## Delivery address

Muscat Pharmacy & Stores LLC
P O Box 438
Postal Code 100
MUSCAT
SULTANATE of OMAN

Contact: Dinesh Rajadhyaksha
Tel: +968 24814501

| Quantity Ordered | Product Code | Product Description | Unit Price £ | Net Price £ |
|---|---|---|---|---|
| | | AGENTS PRICES | | |
| | | Customer: Royal Hospital | | |
| | | ABCA2 | | |
| 1 | 20602 | Complete Sercon ABCA2 system<br>High performance, high sample throughput IRMS for 13C breath tests. Including 240 place XYZ autosampler and gas box.<br>Includes 70101-1 - ABCA2 spares kit - filament, copper gaskets, source tool kit, pump oil, 100 12 ml Exetainer vials, tubing and needle.<br>Inlcuding Windows based PC and printer | 43,000.00 | 43,000.00 |
| 1 | SI1767 | CVL505 - Barcode Reader<br>Bar code reader for error free sample loading, secure patient identification and GLP compliance. | 720.00 | 720.00 |
| 1 | WARR | 1 year warranty | 0.00 | 0.00 |
| 1 | INST | Installation and start up training at Customer's site<br>4 days on site | 5,000.00 | 5,000.00 |

| | | |
|---|---|---|
| Total Net Amount | £ | 48,720.00 |
| Total VAT Amount | £ | 0.00 |
| Order Total | £ | 48,720.00 |

Sercon Limited
Unit 3B Crewe Trade Park
Gateway, Crewe
CW1 6JT U.K.
Company Registration No.: 4290072

Phone: +44 (0) 1270 580008
Fax: +44 (0) 1270 252310
sales@sercongroup.com
www.sercongroup.com
VAT No.: GB 771 1100 74

# Proforma Invoice

Invoice to:

Muscat Pharmacy & Stores LLC
P O Box 438
Postal Code 113
MUSCAT
SULTANATE of OMAN

| | |
|---|---|
| Invoice No. | 13133a |
| Invoice/Tax Date | 08/07/2020 |
| Due Date | 07/08/2020 |
| Account No. | MUS001 |

VAT Reg No: OM

Customer Order No: Dinesh Rajadhyaksha

Instrument No. IN1228

| Quantity | Product Code | Product Description | Net Amount £ | VAT Rate % | VAT Amount £ |
|---|---|---|---|---|---|
| | | AGENTS PRICES<br>Customer: Royal Hospital | | | |
| | | ABCA2 | | | |
| 1 | 20602 | Complete Sercon ABCA2 system | | | |
| 1 | SI1767 | CVL505 - Barcode Reader | | | |
| 1 | WARR | 1 year warranty | | | |
| 1 | INST | Installation and start up training at Customer's site<br>4 days on site | | | |
| | | Total amount of order: 48,720.00<br>50% payable with order:<br>40% payable on delivery: 19,488.00<br>10% payable on installation: 4,872.00 | 24,360.00 | 0.00 | 0.00 |

Delivery address:
Dinesh Rajadhyaksha
Muscat Pharmacy & Stores LLC
P O Box 438
Postal Code 100
MUSCAT
SULTANATE of OMAN,

This invoice is issued in: Pound Sterling

| | | |
|---|---|---|
| Total Net Amount | £ | 24,360.00 |
| Total VAT Amount | £ | 0.00 |
| Invoice Total | £ | 24,360.00 |

Payment Details:-
Payment is required within 30 DAYS of invoice date by bank transfer.
All bank transfer charges are the responsibility of the customer.

Sercon Bank Details:-
National Westminster Bank, 36 High Street,
Nantwich, Cheshire CW5 5GA U.K.

IBAN: GB74NWBK54101736755133
SWIFT/BIC: NWBKGB2LXXX

Sercon Limited
Unit 3B Crewe Trade Park
Gateway, Crewe
CW1 6JT U.K.
Company Registration No.: 4290072

Phone: +44 (0) 1270 580008
Fax: +44 (0) 1270 252310
Email: accounts@sercongroup.com
www.sercongroup.com
VAT No.: GB 771 1100 74

# Invoice

Invoice to:

Muscat Pharmacy & Stores LLC
P O Box 438
Postal Code 113
MUSCAT
SULTANATE of OMAN

VAT Reg No: OM

Invoice No. 13133b
Invoice/Tax Date 10/07/2020
Due Date 09/08/2020
Account No. MUS001

Customer Order No. Dinesh Rajadhyaksha

Instrument No. IN1228

| Quantity | Product Code | Product Description | Net Amount £ | VAT Rate % | VAT Amount £ |
|---|---|---|---|---|---|
| | | AGENTS PRICES<br>Customer: Royal Hospital | | | |
| | | ABCA2 | | | |
| 1 | 20602 | Complete Sercon ABCA2 system | | | |
| 1 | SI1767 | CVL505 - Barcode Reader | | | |
| 1 | WARR | 1 year warranty | | | |
| 1 | INST | Installation and start up training at Customer's site<br>4 days on site | | | |
| | | Total amount of order: 48,720.00 | | | |
| | | 40% payable on delivery: | 19,488.00 | 0.00 | 0.00 |
| | | 10% payable on installation: | 4,872.00 | 0.00 | 0.00 |

Delivery address:
Dinesh Rajadhyaksha
Muscat Pharmacy & Stores LLC
P O Box 438
Postal Code 100
MUSCAT
SULTANATE of OMAN,

This invoice is issued in: Pound Sterling

| | | |
|---|---|---|
| Total Net Amount | £ | 24,360.00 |
| Total VAT Amount | £ | 0.00 |
| Invoice Total | £ | 24,360.00 |

Payment Details:-
Payment is required within 30 DAYS of invoice date by bank transfer.
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Nantwich, Cheshire CW5 5GA U.K.

IBAN: GB74NWBK54101736755133
SWIFT/BIC: NWBKGB2LXXX

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Fax: +44 (0) 1270 252310
Email: accounts@sercongroup.com
www.sercongroup.com
VAT No.: GB 771 1100 74

# Packing List

**Reference:** 201892/DBR/DGRH/T-29

**Shipper / Exporter:**

Sercon Limited
Unit 3B Crewe Trade park
Gateway
Crewe
CW1 6JT
UK

Tel: +44 (0)1270 580008
Reference: IN1228

**Consignee:**

Muscat Pharmacy & Stores LLC
P.O. Box 438
Postal Code – 100
Muscat
Sultanate of Oman

Contact Name: Dinesh Rajadhyaksha
Contact Tel Number: +968 24814501

## BOX: 2

| Quantity | Product Code | Product Description | Serial Number: *if available* |
|---|---|---|---|
| ☑ 1 | | Rotary Pump and filter | 190618676 |
| ☑ 1 | | Permanent Magnet + feet | 23-5-19 |
| ☑ 1 | 70101-1 | ABCA Spares Kit | |
| ☑ 1 | | ABCA Manual | |
| ☑ 1 | | Software and windows recovery – *with manual* | |
| ☑ 1 | | PC | 9YJ1LT2 |
| ☑ 1 | | Monitor | 7GM8GZ2 |
| ☑ 1 | | ABCA2 CETAC Base | |
| ☑ 5 | | ABCA2 CETAC Rack | |

Packed by: P. Hayes

Date: 9/7/20

**Claims for damage or shortages must be made within 3 days**



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Company Registration No.: 4290072



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sales@sercongroup.com
**www.sercongroup.com**
VAT No.: 771 1100 74

sercon
innovators in isotopes

# Packing List

**Reference:** 201892/DBR/DGRH/T-29

**Shipper / Exporter:**

Sercon Limited
Unit 3B Crewe Trade park
Gateway
Crewe
CW1 6JT
UK

Tel: +44 (0)1270 580008
Reference: IN1228

**Consignee:**

Muscat Pharmacy & Stores LLC
P.O. Box 438
Postal Code – 100
Muscat
Sultanate of Oman

Contact Name: Dinesh Rajadhyaksha
Contact Tel Number: +968 24814501

## BOX: 1

| Quantity | Product Code | Product Description | Serial Number: *if available* |
|---|---|---|---|
| ☑ 1 | 20602/1 | ABCA | 20602/1-2020/1228 |

Packed by: P. Hayes
Date: 9/7/20

**Claims for damage or shortages must be made within 3 days**

sercon
innovators in isotopes

# Packing List

**Reference:** 201892/DBR/DGRH/T-29

**Shipper / Exporter:**

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Unit 3B Crewe Trade park
Gateway
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CW1 6JT
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Tel: +44 (0)1270 580008
Reference: IN1228

**Consignee:**

Muscat Pharmacy & Stores LLC
P.O. Box 438
Postal Code – 100
Muscat
Sultanate of Oman

Contact Name: Dinesh Rajadhyaksha
Contact Tel Number: +968 24814501

| | | | | |
|---|---|---|---|---|
| ☑ | 1 | | CETAC XYZ Autosampler | 071905A7400HR |
| ☑ | 1 | 10602 | ABCA2 Gas Box | 10602/2020/1228 |
| ☑ | 1 | SI1767 | Barcode Reader | 0910 0 1 7 7 |
| ☑ | 1 | | CETAC Z-Drive | |
| ☑ | 1 | | CETAC Completion Kit | |
| ☑ | 3 | | Gas Connecting Tubes (In Completion kit) | |
| ☑ | 1 | | Ribbon Cable – *to gas box* (In Completion kit) | |
| ☑ | 1 | | Flow Cable – *to gas box* (In Completion kit) | |

P. Mayo
9/7/20.



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Company Registration No.: 4290072



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**www.sercongroup.com**
VAT No.: 771 1100 74

13133

# Quotation

To: Muscat Pharmacy & Stores LLC
P O Box 438
Postal Code 113
MUSCAT
SULTANATE of OMAN

VAT Reg No: OM

| | |
|---|---|
| Quotation Date: | 26/03/2019 |
| Quotation Reference: | 13133 |
| Customer Ref: | Dinesh Rajadhyaksha |
| Account Ref. | MUS001 |
| Quotation Validity: | 26/06/2019 |

| Quantity | Product Code | Product Description | Unit Price £ | Net Price £ |
|---|---|---|---|---|
| | | **AGENTS PRICES**<br>Customer: Royal Hospital | | |
| | | **ABCA2** | | |
| 1 | 20602 | Complete Sercon ABCA2 system<br>High performance, high sample throughput IRMS for 13C breath tests. Including 240 place XYZ autosampler and gas box. Includes 70101-1 - ABCA2 spares kit - filament, copper gaskets, source tool kit, pump oil, 100 12 ml Exetainer vials, tubing and needle.<br>Inlcuding Windows based PC and printer | 43,000.00 | 43,000.00 |
| 1 | SI1767 | CVL505 - Barcode Reader<br>Bar code reader for error free sample loading, secure patient identification and GLP compliance. | 720.00 | 720.00 |
| 1 | WARR | 1 year warranty | | |
| 1 | INST | Installation and start up training at Customer's site<br>4 days on site | 5,000.00 | 5,000.00 |
| 1 | CIP | Estimated CIP - Destination Airport | 1,500.00 | 1,500.00 |
| | | **SERVICE CONTRACT - 1 YEAR** | | |
| 1 | SCONTRACT | Maintenance Service Contract<br>Contract to consist of 1 visit of 2 days on-site per annum | 4,500.00 | 4,500.00 |
| | | **OPTIONS** | | |
| 1 | SI2347 | 6kVA fully isolated UPS | 6,569.00 | 6,569.00 |
| | | **TRAINING FOR MP ENGINEERS** | | |
| 1 | TRAIN | Training for 2 MP service engineers for 4 days at Sercon, UK<br>excluding flights and accomodation | 4,000.00 | 4,000.00 |

This quotation is issued in Pound Sterling

| | | |
|---|---|---|
| Total Net Amount | £ | 65,289.00 |
| Total VAT Amount | £ | 0.00 |
| Order Total | £ | 65,289.00 |

* The price quoted does not include any local taxes or duties
See separate document for terms and conditions

Delivery: within 90 days of receipt of order

Payment Details:-
50% with order, 40% on delivery and 10% installation
100% on delivery
Payment is required within 30 DAYS of invoice date by bank transfer.
All bank transfer charges are the responsibility of the customer.

Sercon Bank Details:-
National Westminster Bank, 36 High Street, Nantwich, Cheshire CW5 5GA U.K.

IBAN: GB74NWBK54101736755133
SWIFT/BIC: NWBKGB2LXXX

Sercon Limited
Unit 3B Crewe Trade Park
Gateway, Crewe
CW1 6JT U.K.
Company Registration No.: 4290072

Phone: +44 (0) 1270 580008
Fax: +44 (0) 1270 252310

www.sercongroup.com
VAT No.: 771 1100 74

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# ABCA2 Installation Acceptance Certificate

| | |
|---|---|
| Job no.: | IN1228 |
| Customer: | Muscat Pharmacy & Stores LLC |
| Address | Royal Hospital, Dept of Bio-Chemistry, PO Box 1331, Al Ghoubra, PC 111 Sultanate of Oman |
| Contact: | Dinesh Rajadhyaksha |
| System: | ABCA2 |
| ABCA2 Serial Number | 20602/1-2020/1228 |
| Gas Box Serial Number | 10602/2020/1228 |
| Autosampler Serial Number | 071905A7400HR |
| Software: | V800. 1. 0. 24398 |
| Engineer: | LEE MARTIN (Local engineer Buchi Babu on site) |
| Installation Start Date: | 10-AUG-21 |
| Installation Completion Date: | 24-AUG-21 |
| Maintenance Required by Date: | 24-AUG-22 |
| Delivery Date: | |
| Warranty Commences: | 25-AUG-21 |
| Warranty Expires: | 25-AUG-22 |
| Consignor: | Sercon Limited<br>Unit 3B, Crewe Trade Park<br>Gateway<br>Crewe<br>CW1 6JT U.K. |
| Outstanding Installation Requirements: | None |

**I hereby agree that the installation has been completed and meets the manufacturer's specifications and that basic training has been provided.**

| | | | |
|---|---|---|---|
| Customer Acceptance | 30/9/21 | Date: | 28-Sep-21 |
| Engineer's Signature | lmartin | Date: | 28-Sep-21 |

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| $^{13}C$ | | | |
|---|---|---|---|
| Ref Gas Injection Precision | 100% $CO_2$ (n=5) | ≤0.1‰ | Observed Precision: **0.08 ‰**<br>Pass/Fail: **Pass**<br>Sheet Number: **03** |
| Ref gas in tubes precision | 5% $CO_2$ in Exetainers (n=5) | ≤0.1‰ | Observed Precision: **0.06 ‰**<br>Pass/Fail: **Pass**<br>Sheet Number: **05** |
| Breath Precision | Breath in Exetainers (n=5) | ≤0.2‰ | Observed Precision: **0.09 ‰**<br>Pass/Fail: **Pass**<br>Sheet Number: **04** |
| Sensitivity | 5% $CO_2$ in Exetainers | Major beam 5e-9 with trap of 150 | Observed Sensitivity: **11nA**<br>Pass/Fail: **Pass**<br>Sheet Number: **06** |
| Linearity | 0.5 to 8.0% $CO_2$ in Helium: Exetainers | ≤0.5 ‰ change | Observed Linearity: **0.28 ‰**<br>Pass/Fail: **Pass**<br>Sheet Number: **07** |
| Peak Shape | Beam 1,2 and 2/1 | Minimum 5V wide 2/1. Gradient acceptable due to single turbo pump | Observed Peak Shape: **Pass**<br>Pass/Fail: **Pass**<br>Sheet Number: **01** |
| Stability | 2/1 ratio over 600 seconds | Flat, no spikes or variations. Slight gradient acceptable | Observed Stability: **Pass**<br>Pass/Fail: **Pass**<br>Sheet Number: **02** |

## Special Tests

## Specification Acceptance

| | | | |
|---|---|---|---|
| Engineer Signature: | Rkameny | Date: | 24/08/21 |
| Customer Signature: | | Date: | 30/9/21 |

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# Customer Training Checklist

**Tuning Parameters:**

- What do they mean with respect to what is actually happening in the source?
- How do they affect peak shape, sensitivity and stability?

**Gas Box and ASX7400 overview.**

- Describe the sample pathway for tube injection, internal ref gas loop loading, ref gas pulse
- Adjusting the autosampler bed layout
- Replacing the needle
- Leak Checking

**Running Samples**

- How to create the sample list? BCR vs Disk File
- Choosing the correct references and method set up for your application, from tube, ref gas pulse, internal loop loading.
- Event files, when to modify them and how
- Timings, how to adjust the timings to ensure the sample peak is completely integrated
- Measuring and setting the helium flow; valco and syringe.
- Report set up, drift/undrift corrected

**The Gas Handling**
**Routine Maintenance:**

- Discuss routine maintenance, including filament and oil change, using the manual as a reference guide.

- A physical demonstration of replacing the needle.

| Training Completed | | | |
|---|---|---|---|
| Engineer Signature: | | Date: | |
| Customer Signature: | | Date: | 30/9/21 |

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**Details of Visit:**

10-Aug-21

ABCA2, autosampler and PC already placed on bench. Units all powered up and comms established.

Rotary pump filled with oil and connected up. Magnet fitted. Vacuum pumps switched on. Slow to pump but the year spent in a box could be the reason for this. Instrument left to pump overnight with a vacuum of 6.1e-06mbar reached before leaving.

11-Aug-21

Vacuum of 1.6e-07mbar reached overnight. Source switched on with emission ok. Magnet tuning conducted with acceptable peak shape attained. Stability also ok.

Decision made to postpone the install as onsite engineer does not have the means to prepare batches for further testing. This will also allow for further pumping of the instrument and settling time for the filament.

Linearity and 5% CO2 in tube precision batches sent to the customer along with a 12ml exe needle and union to flush vials.

Autosampler aligned before concluding the session.

23-Aug-21

Install continued after delivery of samples. Vacuum of 1.0e-08mbar reached. Tuning and magnet optimised in order to pass linearity. This has been achieved, albeit with a reused batch. Engineer to prepare 2 more batches for final specifications.

24-Aug-21

Final specifications complete

**Recommendations:**

None

**Faults and Shortages:**

None

**Additional Parts Used:**

| Part Description | Part Code | Cost |
|---|---|---|
| | | |
| | | |
| | | |
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|---|---|---|
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