

Whitley Technical Note: MA13

Cost Comparison

Whitley A35 Anaerobic Workstation V Anaerobic Jars

The calculations below are based on a laboratory processing 50 samples per day. They assume that two plates are prepared and incubated for 48 and 72 hours respectively. The calculations do not take into account any control plates that a laboratory may use.

Consumable Components (based on Oxoid prices January 2024)

| <u>Consumables</u> | <u>Cost</u> | <u>Cost per Jar</u> |
|----------------------------|----------------|---------------------|
| Anaerogen (AN0025A) | £41.77 per 10 | £4.18 |
| Indicator Strips (BR0055B) | £57.78 per 100 | £0.58 |
| | | Total £4.76 |

The resulting figures represent the consumable cost per jar cycle.

| | |
|--|---------|
| 12 jars per day @ £4.76 Based on 9 Plate Jar | £57.12 |
| 5 day working week | £285.60 |
| Over 1 year period | £14,851 |

The average working life of a Whitley Anaerobic Workstation is ten years. The consumable costs associated with anaerobic jars over the same period amounts to £148,512.00

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The capital outlay to operate with anaerobic jars would involve the purchase of 30 x DWS 9 plate jars costing £599.65 each. It is possible to purchase cheaper jars, but we have no experience as to whether they would last for ten years. It would also be necessary to purchase two incubators capable of accommodating up to a maximum of thirty jars at any one time.

Total costs that would be incurred to operate an anaerobic jar system for ten years are thus:-

| | |
|---|--------------------|
| Consumables | £148,512.00 |
| 30 x 9 Plate anaerobic jars (DWS Code A00005) | £19,068.90 |
| 2 x Incubators (Average price) | £6,600.00 |
| Total | £174,180.00 |

The Whitley A35 Anaerobic Workstation will accommodate up to 600 plates which makes it the ideal model for the purpose of this comparison. In its most economical guise the workstation uses a combination of Anaerobic Gas Mixture and Nitrogen and in general use would require 5 cylinders of gas mixture and 2 cylinders of Nitrogen per year.

The comparative costs involved in using a workstation instead of jars are as follows:-

| | |
|---|-------------------|
| Anaerobic gas mixture (50 bottles in 10 years) at £197.67* per bottle | £9,883.50 |
| Anaerobic Gas Cylinder rental (£117.00* per year for 10 years) | £1,680.00 |
| Nitrogen Gas (20 bottles in 10 years) at £14.91* | £316.80 |
| Nitrogen Gas Cylinder Rental (£86.40* per year for 10 years) | £1,608.00 |
| Initial purchase of Whitley A35 Workstation (A07000) | £32,715.00 |
| Maintenance Contract (Over 9 years as warranty covers the first year) | £26,082.00 |
| Total | £72,285.30 |

*The price of gases and the cylinder rental charges were obtained from BOC, in January 2024 as a contract price and include environmental and energy surcharges.