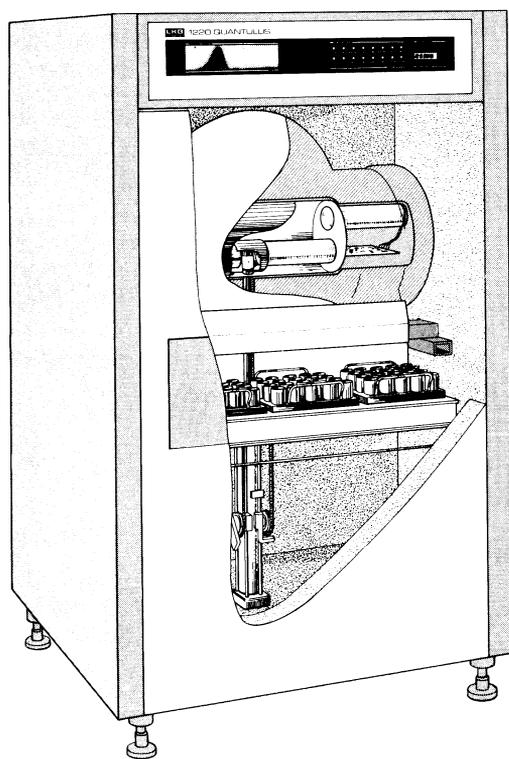


# Quantulus - the fully optimized multiparameter low level LSC

The LKB Wallac 1220 Quantulus is a complete low level LSC system based on multiparameter multichannel analysis with spectral display. Working in close cooperation with Dr. Henry Polach of the Australian National University, Wallac Oy developed the Quantulus using the design concept of 'total optimisation' where all known factors enabling the reduction of background, en-



hanced precision and validation of data are optimized. Some of the features which give the Quantulus the lowest ever reported background for an above ground installation include:

- \* Highly effective active and passive shielding
- \* Special reusable LKB Wallac teflon/copper vials that provide the highest figure of merit for any vial used in low level LSC work
- \* Electronic optimization comprising HI-LO bias selection, radio frequency suppression and careful PMT selection
- \* Prevention of static electricity and radon build-up

Performance data resulting from these superior features which allow the Quantulus, e.g., to date a 3 ml radiocarbon sample back 57,700 years are shown in the table.

**Table of QUANTULUS performance data**  
(using LKB Wallac Teflon/copper vials)

Isotope	Volume (ml)	Percentage counting efficiency (E)		Background cpm (B)		Figure of merit E <sup>2</sup> /B	
		(1)	(2)	(1)	(2)	(1)	(2)
<sup>14</sup> C	15	75	77	1.20	0.90	4,600	6,500
<sup>14</sup> C	7	73	78	0.50	0.50	10,600	12,100
<sup>14</sup> C	3	70	74	0.25	0.17	19,600	32,200
<sup>3</sup> H	20 (8 ml H <sub>2</sub> O)	23	25	0.80	0.70	660	890

(1) LKB Wallac specifications, Turku, Finland.

(2) Results obtained at the Australian National University, Canberra, where <sup>14</sup>C Precision Modern = ± 0.2% (15 ml) and Age Limits = 65,000 (15 ml); 56,000 (3 ml) and 46,000 (1 ml in a 3 ml vial), all with - 3,400, + 5,900 year error and based on a 3,000 MIN count.

Customized P.C. software for offline data analysis is also provided and thus the Quantulus gives you the convenience of being able to prepare and analyse low level LSC samples in your usual working environment.

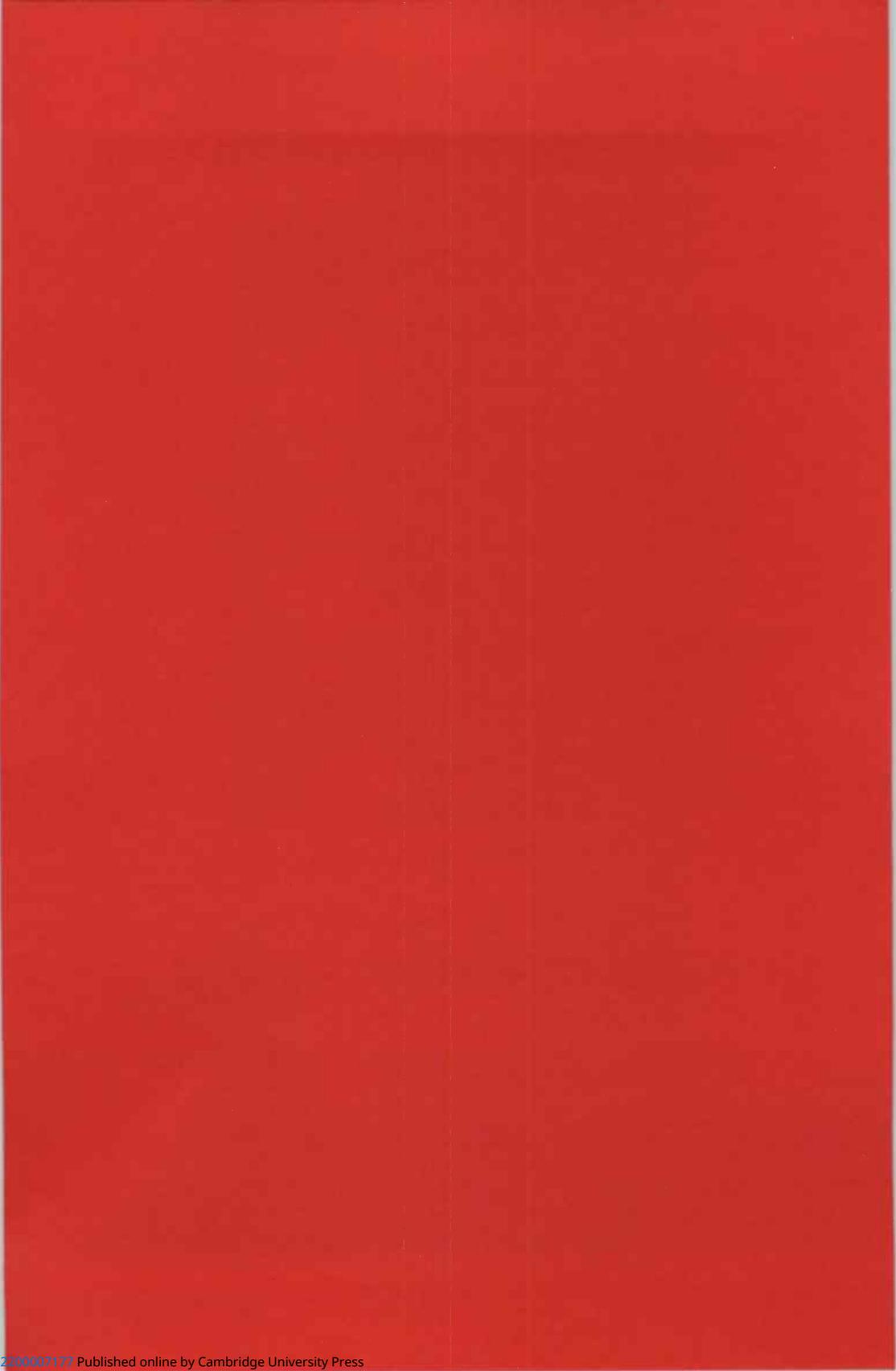


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