

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13D

Under the Securities Exchange Act of 1934

(Amendment No. 4)

Thermo Fibertek Inc.

(Name of Issuer)

Common Stock, par value \$.01 per share

(Title of Class of Securities)

88355W-10-5

(CUSIP Number)

Seth H. Hoogasian, Esq.
General Counsel
(617) 622-1000

Thermo Electron Corporation
81 Wyman Street
Waltham, MA 02254-9046

(Name, Address and Telephone Number of Person Authorized
to Receive Notices and Communications)

September 16, 1996

(Date of Event which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition which is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(b)(3) or (4), check the following box [].

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

PAGE

1 NAME OF REPORTING PERSON
S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON

Thermo Electron Corporation
IRS No. 04-2209186

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*
(a) []
(b) []

3 SEC USE ONLY

4 SOURCE OF FUNDS*

WC

5 CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED
PURSUANT TO ITEMS 2(d) or 2(e) []

6 CITIZENSHIP OR PLACE OF ORGANIZATION

State of Delaware

7 SOLE VOTING POWER

NUMBER OF

54,745,824

SHARES

BENEFICIALLY 8 SHARED VOTING POWER

OWNED BY 0

9 SOLE DISPOSITIVE POWER

EACH

54,745,824

REPORTING

10 SHARED VOTING POWER

PERSON WITH 0

PAGE

11 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

54,745,824

12 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES
CERTAIN SHARES* []

13 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11

86.8%

14 TYPE OF REPORTING PERSON *

CO

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Pursuant to Rule 13d-2(c) under the Securities Exchange Act of 1934, this Amendment No. 4 to Schedule 13D amends and restates the entire text of the Schedule 13D, as previously amended, previously filed by Thermo Electron Corporation relating to shares of common stock, par value \$.01 per share, of Thermo Fibertek Inc.

Item 1. Security and Issuer.

This Amendment relates to the shares (the "Shares") of common stock, par value \$.01 per share, of Thermo Fibertek Inc. (the "Issuer"). The Issuer's principal executive offices are located at 81 Wyman Street, Waltham, Massachusetts 02254-9046.

Item 2. Identity and Background.

This Amendment is being filed by Thermo Electron Corporation (the "Reporting Person"). The Reporting Person is filing this Amendment pursuant to Rule 13d-2 to reflect an increase in the Reporting Person's holdings of the Issuer's Shares since the Reporting Person's last filing on Schedule 13D, in February 1996, of more than one percent.

The principal business address and principal office address of the Reporting Person is 81 Wyman Street, Waltham, Massachusetts 02254-9046. The Reporting Person is a Delaware corporation.

The Reporting Person develops, manufactures and markets environmental, analytical and process control instruments, cogeneration and alternative-energy power plants, low-emission combustion systems, paper and waste-recycling equipment, and biomedical products. The Reporting Person also provides a range of services including environmental remediation and consulting, laboratory analysis, and metals fabrication and processing, as well as research and product development in unconventional imaging, adaptive optics, and direct energy conversion.

Appendix A attached to this Amendment sets forth with respect to each executive officer and director of the Reporting Person his or her (a) name; (b) residence or business address; (c) present principal occupation or employment and the name, principal business and address of any corporation or other organization in which such employment is conducted; and (d) citizenship. To the knowledge of the Reporting Person, there is no person who may be deemed to be a controlling person of the Reporting Person.

During the last five years, neither the Reporting Person nor (to the knowledge of the Reporting Person) any executive officer or director of the Reporting Person has been convicted in a criminal proceeding (excluding traffic violations and similar misdemeanors).

During the last five years, neither the Reporting Person nor (to the knowledge of the Reporting Person) any executive officer or director of the Reporting Person has been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction which resulted in a judgment, decree or final order (i) enjoining future violations of, or prohibiting or

mandating activities subject to, federal or state securities laws or (ii) finding any violation with respect to such laws.

Item 3. Source and Amount of Funds or Other Consideration.

The Reporting Person has expended approximately \$37,531,200 in purchasing Shares of the Issuer since the date of its last filing on Schedule 13D. These funds were paid out of the Reporting Person's working capital.

Item 4. Purpose of Transaction

The Reporting Person may make purchases of Shares or other securities of the Issuer in such manner and in such amounts as it determines to be appropriate (i) in order to maintain at least 80% ownership of the Issuer for tax consolidation purposes or (ii) for other purposes. In determining whether to do so for other purposes, it will consider various relevant factors, including its evaluation of the Issuer's business, prospects and financial condition, amounts and prices of available securities of the Issuer, the market for the Issuer's securities, other opportunities available to the Reporting Person and general market and economic conditions. Purchases may be made either on the open market or directly from the Issuer.

Except as set forth in this Item 4 and in Item 6, neither the Reporting Person nor, to the Reporting Person's knowledge, any of the executive officers or directors of the Reporting Person has any current plans or proposals which relate to or would result in any of the actions specified in clauses (a) through (j) of Item 4 of Schedule 13D, although the Reporting Person and such other persons do not rule out the possibility of effecting or seeking to effect any such actions in the future.

Item 5. Interest in Securities of the Issuer.

(a) The Reporting Person beneficially owns 54,647,224 Shares, or approximately 86.6% of the outstanding Shares. Of the 54,647,224 Shares beneficially owned by the Reporting Person, 1,888,122 Shares are issuable to the Reporting Person if it elects to convert in full its subordinated convertible debentures of the Issuer.

To the knowledge of the Reporting Person, the executive officers and directors of the Reporting Person beneficially own an aggregate of 1,340,834 Shares or approximately 2.1% of the outstanding Shares. To the knowledge of the Reporting Person, the Shares beneficially owned by all executive officers and directors of the Reporting Person include 1,222,210 Shares that such persons have the right to acquire within 60 days. Ownership information for each executive officer and director of the Reporting Person who owns Shares is set forth below.

Name	Number of Shares(1)
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John M. Albertine	6,750
Peter O. Crisp	6,750
Elias P. Gyftopoulos	6,750
George N. Hatsopoulos	191,910
John N. Hatsopoulos	119,155
Paul F. Kelleher	85,500
Frank Jungers	7,875
Robert A. McCabe	6,750
Frank E. Morris	6,750
Donald E. Noble	114,250
Hutham S. Olayan	6,750
Peter G. Pantazelos	9,000
William A. Rainville	657,894
Arvin H. Smith	90,000
Roger D. Wellington	15,750
John W. Wood, Jr.	9,000
All directors and current executive officers as a group (16 persons)	1,340,834

(1) Shares reported as beneficially owned by Dr. Albertine, Mr. Crisp, Dr. Gyftopoulos, Dr. G. Hatsopoulos, Mr. J. Hatsopoulos, Mr. Jungers, Mr. Kelleher, Mr. McCabe, Dr. Morris, Mr. Noble, Ms. Olayan, Mr. Pantazelos, Mr. Rainville, Mr. Smith, Mr. Wellington and all directors and current executive officers as a group include 6,750, 6,750, 6,750, 157,910, 97,200, 6,750, 74,250, 6,750, 6,750, 95,850, 6,750, 9,000, 635,000, 90,000, 6,750, 9,000 and 1,222,210 Shares, respectively, that such person or members of the group have the right to acquire within 60 days.

While certain directors and executive officers of the Reporting Person are also directors or executive officers of the Issuer, all such persons disclaim beneficial ownership of the Shares owned by the Reporting Person.

(b) The Reporting Person and the executive officers and directors of the Reporting Person have the sole power to vote and dispose of the Shares each such person owns, except that 1,125 of the Shares that are beneficially owned by one of the directors of the Reporting Person, Mr. Frank Jungers, are held by Mr. Jungers' spouse. Shares beneficially owned by Mr. Noble include 5,715 Shares allocated to Mr. Noble's account pursuant to the Issuer's deferred compensation plan for directors.

(c) The Reporting Person has effected the following transactions with respect to the Shares during the past 60 days:

Date	Amount	Price Per Share	Transfer Type
4/1/97	2,900	\$ 8.50	Purchase on Open Market
4/2/97	8,900	\$ 8.50	Purchase on Open Market
4/2/97	10,000	\$ 8.63	Purchase on Open Market
4/3/97	2,700	\$ 8.88	Purchase on Open Market
4/4/97	2,900	\$ 9.00	Purchase on Open Market
4/8/97	3,000	\$ 9.81	Purchase on Open Market
4/25/97	984,000	\$ 8.13	Purchase on Open Market
4/28/97	14,300	\$ 8.38	Purchase on Open Market
4/29/97	12,800	\$ 8.50	Purchase on Open Market
4/29/97	1,500	\$ 8.38	Purchase on Open Market
4/29/97	11,600	\$ 8.75	Purchase on Open Market
4/29/97	1,200	\$ 9.13	Purchase on Open Market
4/30/97	3,500	\$ 9.38	Purchase on Open Market
4/30/97	17,000	\$ 9.00	Purchase on Open Market
5/6/97	14,800	\$ 9.88	Purchase on Open Market
5/6/97	6,100	\$ 9.81	Purchase on Open Market
5/7/97	11,700	\$10.00	Purchase on Open Market
5/8/97	4,100	\$10.00	Purchase on Open Market
5/9/97	1,000	\$10.00	Purchase on Open Market
5/12/97	900	\$10.00	Purchase on Open Market
5/13/97	22,100	\$ 9.88	Purchase on Open Market
5/14/97	3,800	\$10.00	Purchase on Open Market
5/15/97	28,000	\$10.00	Purchase on Open Market
5/16/97	4,400	\$10.00	Purchase on Open Market

To the knowledge of the Reporting Person, no executive officer or director of the Reporting Person has effected any transactions in Shares of the Issuer in the past 60 days.

(d) Not applicable.

(e) Not applicable.

Item 6. Contracts, Arrangements, Understandings or Relationships with respect to Securities of the Issuer.

Of the 54,647,224 Shares beneficially owned by the Reporting Person, (i) 1,888,122 Shares are issuable to the Reporting Person if it elects to convert in full its subordinated convertible debentures of the Issuer and (ii) 578,304 Shares are subject to options to acquire such Shares granted by the Reporting Person pursuant to its director and employee stock option plans. The executive officers and directors of the Reporting Person have

the right, pursuant to such options, to acquire 153,000 Shares. In addition, the following executive officers and directors of the Reporting Person have the right to acquire Shares from the Issuer pursuant to the Issuer's director and employee stock option plans: Dr. George N. Hatsopoulos has the right to acquire 157,910 Shares within 60 days; Mr. John N. Hatsopoulos has the right to acquire 97,200 Shares within 60 days; Mr. Donald E. Noble has the right to acquire 95,850 Shares within 60 days; Mr. William A. Rainville has the right to acquire 635,000 Shares within 60 days; Mr. Paul F. Kelleher has the right to acquire 74,250 Shares within 60 days; and Mr. Peter G. Pantazelos has the right to acquire 9,000 Shares within 60 days.

During 1996, the Human Resources Committee of the Board of Directors of the Issuer (the "Committee") established a stock holding policy for executive officers of the Issuer. The stock holding policy specifies an appropriate level of ownership of the Issuer's Common Stock as a multiple of the officer's compensation. For the chief executive officer, William A. Rainville, the multiple is one times his base salary and reference bonus for the calendar year. For all other officers, the multiple is one times the officer's base salary.

In order to assist officers in complying with the policy, the Committee also adopted a stock holding assistance plan under which the Issuer is authorized to make interest-free loans to officers to enable them to purchase shares of the Common Stock in the open market. The loans are required to be repaid upon the earlier of demand or the fifth anniversary of the date of the loan, unless otherwise authorized by the Committee. During 1996, William A. Rainville, an executive officer of the Reporting Person and also the Issuer's chief executive officer, received a loan in the principal amount of \$118,104 under this plan.

The Committee also adopted a policy requiring its executive officers to hold shares of the Issuer's Common Stock acquired upon the exercise of stock options granted by the Issuer. Under this policy, executive officers are required to hold one-half of their net option exercises over a period of five years. The net option exercise is determined by calculating the number of shares acquired upon exercise of a stock option, after deducting the number of shares that could have been traded to exercise the option and the number of shares that could have been surrendered to satisfy tax withholding obligations attributable to the exercise of the options.

During 1996, the Committee established a stock holding policy for the Issuer's directors, including certain persons who are also directors or executive officers of the Reporting Person (George N. Hatsopoulos, John N. Hatsopoulos, Donald E. Noble and William A. Rainville). The stock holding policy requires each director to hold a minimum of 1,000 shares of Common Stock.

In addition, the Committee adopted a policy requiring directors to hold shares of the Issuer's Common Stock equal to one-half of their net option exercises over a period of five years. The net option exercise is determined by calculating the number of shares acquired upon exercise of a stock option, after deducting the number of shares that could have been traded to exercise the option and the number of shares that could have been

surrendered to satisfy tax withholding obligations attributable to the exercise of the option.

Item 7. Material to Be Filed as Exhibits

The following documents relating to the securities of the Issuer are incorporated herein by reference.

- (i) \$15,000,000 principal amount Subordinated Convertible Note due 1997 from the Issuer to the Reporting Person (filed as Exhibit 4.2 to the Issuer's Annual Report on Form 10-K for the fiscal year ended January 1, 1994 [File No. 1-11406] and incorporated herein by reference).
- (ii) Incentive Stock Option Plan of the Issuer (filed as Exhibit 10(k) to the Issuer's Registration Statement on Form S-1 [Reg. No. 33-51172] and incorporated herein by reference).
- (iii) Nonqualified Stock Option Plan of the Issuer (filed as Exhibit 10(l) to the Issuer's Registration Statement on Form S-1 [Reg. No. 33-51172] and incorporated herein by reference).
- (iv) Equity Incentive Plan of the Issuer (filed as Attachment A to the Proxy Statement dated May 3, 1994, of the Issuer [File No. 1-11406] and incorporated herein by reference).
- (v) Deferred Compensation Plan for Directors of the Issuer (filed as Exhibit 10(m) to the Issuer's Registration Statement on Form S-1 [Reg. No. 33-51172] and incorporated herein by reference).
- (vi) Amended and Restated Directors' Stock Option Plan of the Reporting Person (filed as Exhibit 10.25 to the Reporting Person's Annual Report on Form 10-K for the fiscal year ended December 31, 1994 [File No. 1-8002] and incorporated herein by reference).
- (vii) Thermo Electron Corporation-Thermo Fibertek Inc. Nonqualified Stock Option Plan (filed as Exhibit 10.14 to the Reporting Person's Annual Report on Form 10-K for the fiscal year ended December 28, 1991 [File No. 1-8002] and incorporated herein by reference).
- (viii) Restated Stock Holding Assistance Plan and Form of Promissory Note (filed as Exhibit 10.26 to the Annual Report on Form 10-K of the Issuer for the fiscal year ended December 28, 1996 [File No. 1-11406] and incorporated herein by reference).

Signatures

After reasonable inquiry and to the best of its knowledge and belief, the Reporting Person certifies that the information set forth in this statement is true, complete and correct.

Date: June 13, 1997

THERMO ELECTRON CORPORATION

By: /s/Sandra L. Lambert

Sandra L. Lambert
Secretary

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Signatures

After reasonable inquiry and to the best of its knowledge and belief, the Reporting Person certifies that the information set forth in this statement is true, complete and correct.

Date: June 13, 1997

THERMO ELECTRON CORPORATION

By: /s/ Sandra L. Lambert

Sandra L. Lambert
Secretary

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APPENDIX A

The following individuals are executive officers or directors of Thermo Electron Corporation ("Thermo Electron"). Unless otherwise noted, all such individuals are citizens of the United States. Unless otherwise noted, the business address of each executive officer of Thermo Electron is Thermo Electron Corporation, 81 Wyman Street, Waltham, Massachusetts 02254-9046.

John M. Albertine: Director, Thermo Electron

Dr. Albertine is Chairman of the Board and Chief Executive Officer of Albertine Enterprises, Inc., an economic and public policy consulting firm. His business address is Albertine Enterprises, Inc., 1156 15th Street N.W., Suite 505, Washington, DC 20005.

Peter O. Crisp: Director, Thermo Electron

Mr. Crisp is a General Partner of Venrock Associates, a venture capital investment firm. His business address is 30 Rockefeller Plaza, New York, New York 10112.

Elias P. Gyftopoulos: Director, Thermo Electron

Dr. Gyftopoulos is Professor Emeritus of the Massachusetts Institute of Technology. His business address is Massachusetts Institute of Technology, Room 24-109, 77 Massachusetts Avenue, Cambridge, Massachusetts 02139.

Frank Jungers: Director, Thermo Electron

Mr. Jungers is a consultant on business and energy matters. His business address is 822 N.W. Murray, Suite 242, Portland, Oregon 97229.

Robert A. McCabe: Director, Thermo Electron

Mr. McCabe is President of Pilot Capital Corporation, a firm specializing in private investments and acquisition services. His business address is Pilot Capital Corporation, 444 Madison Avenue, Suite 2103, New York, New York 10022.

Frank E. Morris: Director, Thermo Electron

Dr. Morris served as President of the Federal Reserve Bank of Boston from 1968 until he retired in 1988. Dr. Morris also served as the Peter Drucker Professor of Management at Boston College from 1989 to 1994. His residential address is P.O. Box 825, 24 Sugarhouse Road, New London, New Hampshire 03257.

Donald E. Noble: Director, Thermo Electron

For more than 20 years, from 1959 to 1980, Mr. Noble served as the Chief Executive Officer of Rubbermaid, Incorporated, first with the title

of President and then as Chairman of the Board. His business address is Rubbermaid Incorporated, 1147 Akron Road, Wooster, Ohio 44691.

Hutham S. Olayan: Director, Thermo Electron

Ms. Olayan is the President and a director of Olayan America Corporation and President of Competrol Real Estate Limited, firms engaged in advisory services and private real estate investments, respectively. Her business address is Suite 1100, 505 Park Avenue, New York, New York 10022. Ms. Olayan is a citizen of Saudi Arabia.

Roger D. Wellington: Director, Thermo Electron

Mr. Wellington is the President and Chief Executive Officer of Wellington Consultants, Inc. and of Wellington Associates, Inc., international business consulting firms. His address is P.O. Box 8186, 5555 Gulf of Mexico Drive, Longboat Key, Florida 34228.

George N. Hatsopoulos: Director, Chairman of the

Board and Chief Executive
Officer,
Thermo Electron

John N. Hatsopoulos: President and Chief

Financial Officer,
Thermo Electron

Peter G. Pantazelos: Executive Vice President,

Corporate Development
Thermo Electron

Arvin H. Smith: Executive Vice President,

Thermo Electron

William A. Rainville: Senior Vice President,

Thermo Electron

John W. Wood, Jr.: Senior Vice President,

Thermo Electron

Paul F. Kelleher: Senior Vice President, Finance &

Administration and Chief
Accounting Officer,
Thermo Electron