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U.S. Department of Commerce
Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks. Please record the attached original documents or copy thereof.

1. Name of conveying parties:

- a. Xu SHI
- b. Beng Kang TAY
- c. Hong Siang TAN

Additional name(s) of conveying party(ies) attached? yes no

2. Name and address of receiving party(ies):

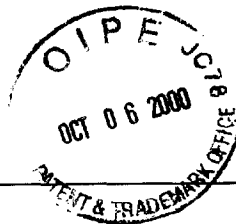
Name: **Filplas Vacuum Technology PTE LTD**
 Street Address: **34 Bukit Pasoh Road**
 City: **Singapore 089848** State: **Singapore** Zip Code:
 Country:

3. Nature of Conveyance:

- Assignment
- Security Agreement
- Other
- Merger
- Change of Name

Execution Date(s): **August 30, 2000 (a, b and c)**

Additional name(s) & address(es) attached? yes no



4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is

A. Patent Application No(s).

09/530,009

B. Patent No(s).

Additional numbers attached? yes no

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: **Sterne, Kessler, Goldstein & Fox P.L.L.C.**

Internal Address: *c/o Michael B. Ray*

Street Address: **1100 New York Ave., N.W.
Suite 600**

City: **Washington** State: **D.C.** Zip Code: **20005-3934**

6. Total number of applications and patents involved

1

7. Total fee (37 C.F.R. § 3.41).....\$ 40.00

Enclosed

Authorized to be charged to Deposit Account

8. Deposit Account Number: **19-0036**

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9. Statement and signature. **40.00 DP**

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Michael B. Ray
 Name of Person Signing
 Registration No. **33,997**

10/6/00
 Date

Total number of pages including cover sheet, attachments and document 3

OMB NO. 0651-0011 (exp.4/94)

Mail documents to be recorded with required cover sheet information to:
Commissioner of Patents and Trademarks, Box Assignments
Washington, D.C. 20231

ASSIGNMENT

In consideration of the sum of One Dollar (\$1.00) or equivalent and other good and valuable consideration paid to each of the undersigned inventors: (1) Xu SHI, (2) Beng Kang TAY, and (3) Hong Siang TAN, the undersigned inventors hereby sell and assign to Filplas Vacuum Technology PTE Ltd (the Assignee) his/her entire right, title and interest, including the right to sue for past infringement and to collect for all past, present and future damages:

check applicable box(es) for the United States of America (as defined in 35 U.S.C. § 100),
 and throughout the world,

(a) in the invention known as Enhanced Macroparticle Filter and Cathode Arc Source for which application for patent in the United States of America has been executed by the undersigned on (1) 30 AUGUST 2000, (2) 30 AUGUST 2000 and (3) 30 AUGUST 2000 known as United States Application No. 09/530,009, which is the U.S. national phase of PCT/IB98/01764, international filing date October 26, 1998, in any and all applications thereon, in any and all Letters Patent(s) therefor, and

(b) in any and all applications that claim the benefit of the patent application listed above in part (a), including continuing applications, reissues, extensions, renewals and reexaminations of the patent application or Letters Patent therefor listed above in part (a), to the full extent of the term or terms for which Letters Patents issue, and

(c) in any and all inventions described in the patent application listed above in part (a), and in any and all forms of intellectual and industrial property protection derivable from such patent application, and that are derivable from any and all continuing applications, reissues, extensions, renewals and reexaminations of such patent application, including, without limitation, patents, applications, utility models, inventor's certificates, and designs together with the right to file applications therefor; and including the right to claim the same priority rights from any previously filed applications under the International Agreement for the Protection of Industrial Property, or any other international agreement, or the domestic laws of the country in which any such application is filed, as may be applicable;

all such rights, title and interest to be held and enjoyed by the above-named Assignee, its successors, legal representatives and assigns to the same extent as all such rights, title and interest would have been held and enjoyed by the Assignor had this assignment and sale not been made.

The undersigned inventors agree to execute all papers necessary in connection with the application and any continuing (continuation, divisional, or continuation-in-part), reissue, reexamination or corresponding application(s) thereof and also to execute separate assignments in connection with such application(s) as the Assignee may deem necessary or expedient.


The undersigned inventors agree to execute all papers necessary in connection with any interference or patent enforcement action (judicial or otherwise) related to the application or any continuing (continuation, divisional, or continuation-in-part), reissue or reexamination application(s) thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference or patent enforcement action.

The undersigned inventors hereby represent that he/she has full right to convey the entire interest herein assigned, and that he/she has not executed, and will not execute, any agreement in conflict therewith.

The undersigned inventors hereby grant Robert Greene Sterne, Esquire, Registration No. 28,912; Edward J. Kessler, Esquire, Registration No. 25,688; Jorge A. Goldstein, Esquire, Registration No. 29,021; Samuel L. Fox, Esquire, Registration No. 30,353; David K.S. Cornwell, Esquire, Registration No. 31,944; Robert W. Esmond,

Esquire, Registration No. 32,893; Tracy-Gene G. Durkin, Esquire, Registration No. 32,831; Michele A. Cimbala, Esquire, Registration No. 33,851; Michael B. Ray, Esquire, Registration No. 33,997; Robert E. Sokohl, Esquire, Registration No. 36,013; Eric K. Steffe, Esquire, Registration No. 36,688; Michael Q. Lee, Esquire, Registration No. 35,239; Steven R. Ludwig, Esquire, Registration No. 36,203; Raz E. Fleshner, Esquire, Registration No. 34,331; John M. Covert, Esquire, Registration No. 38,759; and Linda E. Alcorn, Esquire, Registration No. 39,588; all of STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C., 1100 New York Avenue, N.W., Suite 600, Washington, D.C. 20005-3934, power to insert in this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

Date: 30 AUGUST 2000

Signature of Inventor: 
Xu SHI

Date: 30 AUGUST 2000

Signature of Inventor: 
Beng Kang TAY

Date: 30 AUGUST 2000

Signature of Inventor: 
Hong Siang TAN