

**SERVALL**  
CENTRIFUGES

**Ivan Sorvall, Inc.**

NORWALK, CONNECTICUT, U.S.A.

REGIONAL MANUFACTURERS AND  
DISTRIBUTORS OF "SERVALL"  
CENTRIFUGE INSTRUMENTS

CABLE ADDRESS: "SWEDEGOODS"

December 1, 1959

TELEPHONE: VICTOR 7-2491

PLEASE REPLY TO:

NORWALK, CONNECTICUT

Our Ref: NLC:GS

AIR MAIL

Dr. J. Lederberg, Head  
Department of Genetics  
Stanford University - School of Medicine  
Palo Alto, California

Dear Dr. Lederberg:

We received, a couple of weeks ago, a report from our Mr. Soderlund with whom you discussed, at that time, your idea of a liquid-filled bowl centrifuge.

We had given preliminary thought to such a rotor years ago after collaboration with Dr. Bob Backus, who was then at the University of California, on his method of suspending micro-tubes (1/2 ml. volume) in standard 50 ml. fluid-filled tubes in the SS-1 Centrifuge. His results approached those of an ultra-centrifuge, but, of course, the volumes were terribly small. His end use was analytical rather than preparative however.

The basic problem encountered is structural, which exhibits itself in size, weight and expense. Tied in with this comes acceleration rate and deceleration rate, reasonable limitation of which results in control and drive expense.

It is our understanding from Torsten that you would like to be able to swing tubes up to 50 ml. capacity, specimen ~~capacity~~ up to 1.5 and at speeds in the superspeed range, -i.e., 10 to 20,000 rpm. These parameters are extremely tough. In the design of our HS Rotor, We encountered them to a great extent. When one comes up with a good structural design, it's practically impossible to make. Compromises are called for. The most positive method of compromising would be to shorten the tubes. With that goes the volume.

It is not my intention to detract from the idea. It is rather to point out that there are more problems connected with this than with most centrifuge designs and they will be felt in the cost. Despite this fact, we are working on the situation for a very closely related problem in continuous flow centrifuging, and during the early part of next year, we should be able to tell a great deal more about it. If, in the meantime, you would jot down and send along to us your ideas of the capabilities this rotor should have, it would certainly help to have them in front of us.

**Ivan Sorvall, Inc.**

Dr. J. Lederberg

-2-

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We're not much help to you for the present. No piece of equipment which we have, or could easily make, will do for your purpose. Both our production and model-making facilities are overtaxed for months to come. We hope to relieve this situation by plant expansion next Summer, but we just do not have the capacity at the present time.

Your contact, in this matter, is certainly appreciated. I am sure our work on the bowl-type continuous flow will lay nicely the ground-work for the rotor you hve in mind.

Sincerely yours,

IVAN SORVALL, INC.



Norman L. Christensen  
Senior Vice-President