

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Sorvall / DuPont 11116* at our website: *Click HERE*

INSTRUCTIONS
for using
SORVALL® Microplate Carriers in the H-1000B and H-2000B

The micro-plate carriers and pads are designed to hold microplates that are used to process very small samples in the H-1000B and H-2000B Rotors. Part Number 11097 will hold one (1)standard 96- well microplate at a time. Part Numbers 11263 and 11116 can hold up to two (2) standard 96-well microplates.

Microplate Carriers and Accessories:

Rotor	Description	Max. Speed	Catalog No.
H-1000B	Carrier and Pad	3400	11065
H-1000B	Carrier and Pad(for use w/ Beckman 2ml microplate)	3000	11097
H-2000B	Carrier and Pad	3400	11116
H-1000B and H-2000B	Pad Only		11129

Operation

The information given on the following pages is required to properly prepare the microplate carriers for operation.

1. Relative Centrifugal Force (RCF) Determination (also known as g force)

Relative centrifugal force (RCF) refers to the force during centrifugation that moves a particulate outward from the center of rotation. This force is proportional to the radial distance and the square of the rotor speed. The RCF value is determined by the following formula:

$$\text{RCF } (g \text{ force}) = 11.17\,(r)\left(\frac{n}{1000}\right)^2$$

when r = the radius in centimeters from the centerline of the rotor to the point in the tube where RCF value is required

and n = the rotor speed in rpm

Figure 1 (on page 2) illustrates the point of measurement from the centerline of the rotor to the top surface of the neoprene pad in the carrier. Table 1 provides the RCF values.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

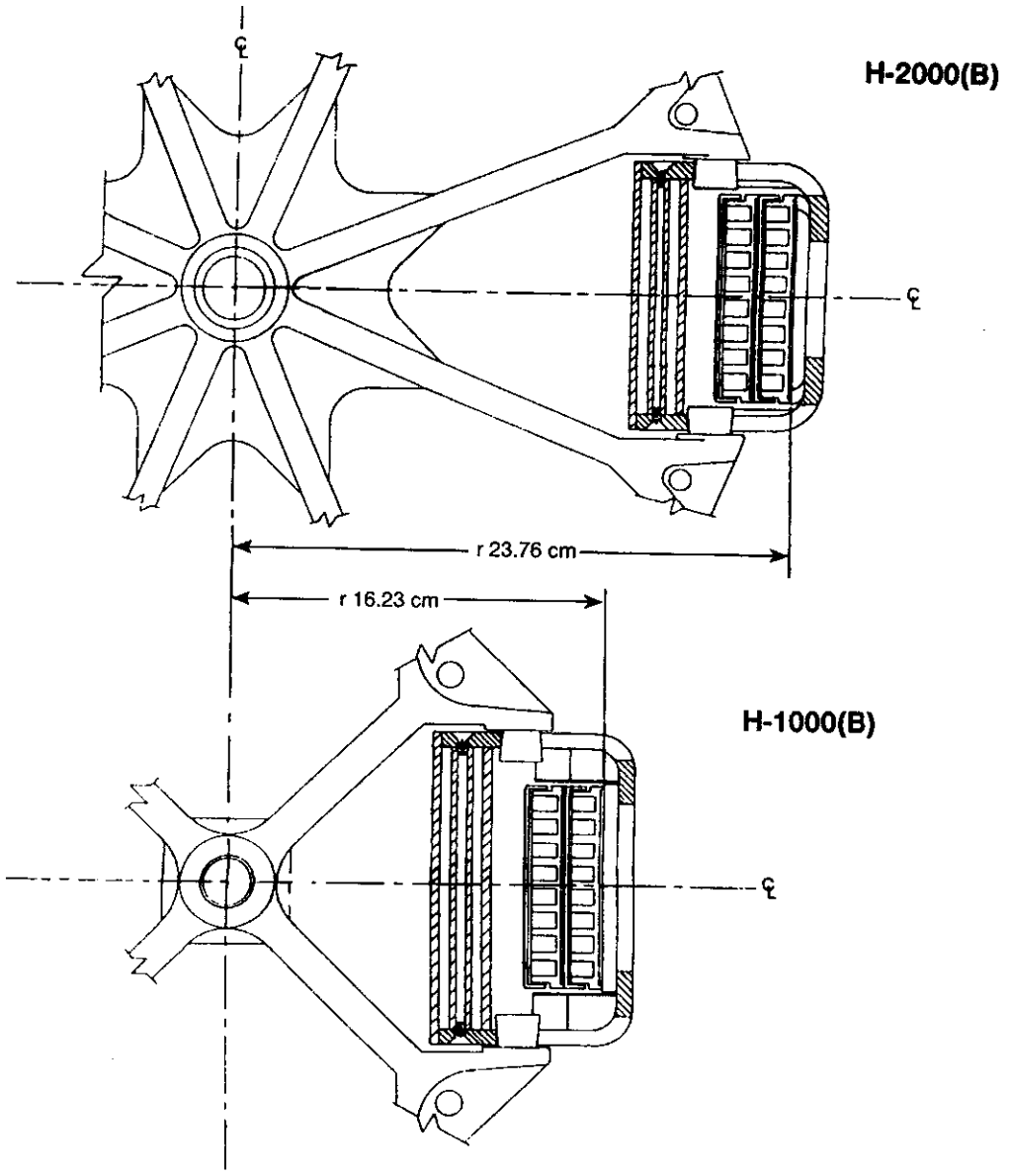


Figure 1. Radial Distance From the Center of the Rotor to the Neoprene Pad (In a Horizontal Position)

Table 1. RCF Values for the H-1000B and H-2000B Rotors used with Microplate Carriers

Rotor Speed (rpm)	H-1000B r = 16.23 cm	H-2000B r= 23.76 cm
500	45	66
1000	181	265
1500	407	597
2000	725	1061
2500	1133	1658
3000	1631	2388
3400	2095	3068

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

2. Rotor Loading and Balancing

WARNING

If using radioactive, toxic, or pathogenic materials, be aware of all characteristics of the materials and the hazards associated with them in the event leakage occurs during centrifugation. If leakage does occur, neither the centrifuge nor the rotor can protect you from the particles dispersed into the air. To protect yourself, we recommend additional precautions be taken to prevent exposure to these materials, for example, use of controlled ventilation or isolation areas.

Always be aware of the possibility of contamination when using radioactive, toxic, or pathogenic materials. Take all necessary precautions and use appropriate decontamination procedures if exposure occurs.

When using microplate carriers in the H-1000B and H-2000B Rotors, load and balance the carriers following the procedures given in the respective Rotor Instruction Manuals for proper balancing. ***NOTE: Be sure to Read all WARNINGS and CAUTIONS given throughout the H-1000B and H-2000B Rotor Instruction Manuals.***

CAUTION

The rotors may be run using only two (2) microplate carriers. Be sure that the carriers are symmetrically positioned for proper balance; it is not necessary to place empty microplate carriers in unused rotor positions. Do not attempt to operate the rotor with unequal masses in opposing rotor positions — to do so, can cause rotor failure.

No more than two (2) microplates can be run in each microplate carrier at a time. To do so can cause the microplate(s) to crack and/or break resulting in loss of sample and possible damage to the rotor and/or centrifuge.

Always use the neoprene pad when running the carriers. The pad must be inserted into the microplate carrier with the curved side down.

We recommend that you *do not* run combinations of microplate carriers and buckets.

NOTE The microplate carriers have been designed for the rotor compartment envelope given in figure 2. The maximum weight for this rotor compartment envelope, without the neoprene pad, is 240 grams.

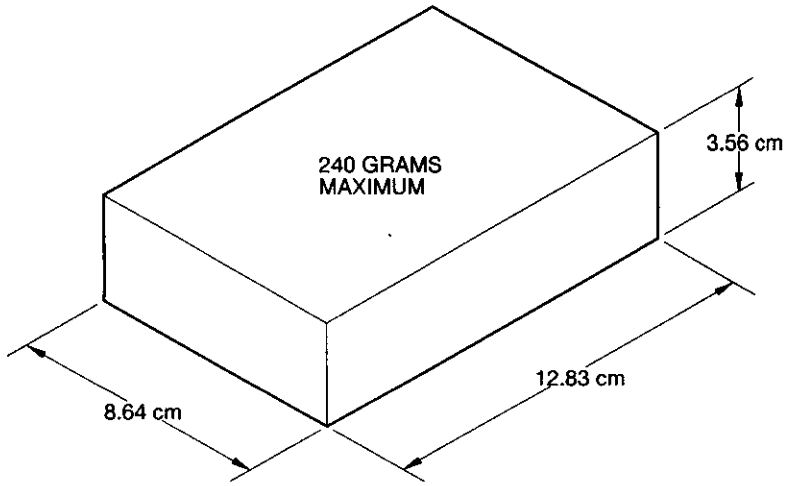


Figure 2. Rotor Compartment Envelope (Without the Pad)

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

3. Compartment Loads in Excess of Design Mass

The maximum run speed is based on the design mass that has been established for the rotor when used with the microplate carriers. Each microplate carrier is designed to hold a total of 290 grams — that is, the microplates and sample are not to exceed 240 grams and the weight of the neoprene pad is 50 grams.

Strict adherence to the maximum allowable design mass or reduced speed is required to prevent rotor failure. If the mass for each microplate carrier is greater than 290 grams, the maximum allowable speed can be determined using the formula given below.

For PNs 11263 and 11116:

$$\text{Reduced Speed} = 3400 \text{ rpm} \times \sqrt{\frac{290 \text{ grams}}{\text{Actual Weight (g)}}}$$

For PN 11097:

$$\text{Reduced Speed} = 3000 \text{ rpm} \times \sqrt{\frac{290 \text{ grams}}{\text{Actual Weight (g)}}}$$

Cleaning and Decontamination

WARNING

Always be aware of the possibility of contamination when using radioactive, toxic, or pathogenic materials. Take all necessary precautions and use appropriate decontamination procedures *if exposure* occurs.

Clean the rotor body and microplate carriers with warm water and mild, non-alkaline soap or detergent. Do not use strong laboratory detergents to clean the rotor surface or the microplate carriers.

Ethylene oxide, a 2% glutaraldehyde solution, or ultraviolet radiation are the recommended methods of sterilization for the microplate carriers.

CAUTION

DO NOT autoclave the micro-plate carriers. If these parts are subjected to temperatures above 100°C, do not use.

For general radioactive decontamination, use a solution of equal parts of 70% ethanol, 10% SDS, and water. Follow this with ethanol rinses, then deionized water rinses, and dry with a soft absorbent cloth. Dispose of all wash solutions in proper radioactive waste containers.

CAUTION

Most commercially available radioactive decontamination solutions are not compatible with aluminum or titanium.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP