

Equipment purchased under the CARE scheme 2009-2010 (BSBE, IIT-Kanpur)

1) Sorvall WX100 Floor Ultracentrifuge

Manufacturer: Thermo Scientific

Catalogue no. : 46902

Description: WX100 Ultra Centrifuge; Max Speed/RCF: 100,000rpm/ 802,010 x g, 200-240V 50/60Hz, 16/20A, Single Phase

Principle of Operation:

Centrifugation involves the use of centrifugal force, so as to increase the effective gravitational force on the components of a mixture, in order to separate them. The rate of centrifugation of a particle in a mixture is specified by the acceleration applied to the sample measured in revolutions per minute(rpm). The settling velocity of the particle is a function of its size and shape, viscosity of the medium, besides other factors.

The ultracentrifuge is optimized for spinning a rotor at very high speeds, capable of generating acceleration as high as 1,000,000 g (9,800 km/s²). These high centrifugal forces are used to isolate very small particles, including ribosomes, proteins, viruses and to study membrane fractionation.

Specifications

Capacity	6 x 250mL
Speed Control	Variable, 1000rpm to max. speed ± 10 rpm, 100rpm increments
Motor Drive	Imbalance-tolerant direct drive
Acceleration/Braking	10/11
Profiles	
Control Type	Microprocessor
User Interface	Color LCD Touch screen
Features	Automatic RCF, Integrator, W ² dt Real Time Control, Controlled Access, Rotor Life Management
Programmability	20 programs, Step-Run
Refrigeration System	Solid-state thermoelectric refrigeration ;CFC-free
Temperature Range	0° to +40°C
Temperature Accuracy	$\pm 0.5^\circ\text{C}$
Vacuum	Oil-free rotary vacuum pump with moisture removal function and oil

Heat Output	diffusion pump (0.13 Pa) <1kw/hr
Noise Level	53dBA
Dimensions (L x W x H)	27.2 x 31.1 x 39.4 in.; Height to top of deck: 33.4 in. (69 x 79 x 100cm; Height to top of deck: 85.0cm)
Height to top of deck	33.4 in. (85cm)
Net Weight	881.8 lb. (400kg)

Picture of the Sorvall WX100 Floor Ultracentrifuge



Accessories:**i) Surespin 630/36**

Top loading Swinging Bucket Titanium rotor and buckets

Catalogue No.: 79368

Capacity: 6*36 ml

Max speed: 30,000 rpm

Max. RCF: 166,880*g

Quantity: 1

ii) Tubes 30 ml (pack of 25)

Catalogue no.: 03141

Quantity: 4

iii) 30 ml buckets for existing Surespin 630/36 rotor

Quantity: 1 set

1) Sorvall MTX 150 Micro-Ultracentrifuge

Manufacturer: Thermo Scientific

Catalogue no. : 46963

Description: MTX 150 Micro-Ultra Centrifuge; 230V 50/60Hz, 6A single phase

Principle of Operation:

Centrifugation involves the use of centrifugal force, so as to increase the effective gravitational force on the components of a mixture, in order to separate them. The rate of centrifugation of a particle in a mixture is specified by the acceleration applied to the sample measured in revolutions per minute(rpm). The settling velocity of the particle is a function of its size and shape, viscosity of the medium, besides other factors.

The ultracentrifuge is optimized for spinning a rotor at very high speeds, capable of generating acceleration as high as 1,000,000 g (9,800 km/s²). These high centrifugal forces are used to isolate very small particles, including ribosomes, proteins, viruses and to study membrane fractionation.

Technical Specifications

Type	Benchtop Model
Capacity	Fixed-Angle: 6 x 30mL (0.18L), w/S50A rotor Swinging Bucket: 4 x 7mL (0.03L), w/S50ST rotor
Max. Speed	150,000rpm
Max. RCF	1,048,680 x g
Profile	9 Acceleration/9 deceleration, brake off
Speed Control Accuracy	±50rpm
Program Memory	20, Each with up to 9 steps
Refrigeration System	Solid-state thermoelectric cooling
Set Temperature Range	0° to 40°C in 1°C increments
Ambient Operating Temperature Range	5° to 35°C (41° to 95°F)
Heat Output	0.7kW/2400 BTU/hr.
D x W x H	22.9 x 23.2 x 16.1 in. (58.2 x 59 x 40.8cm)
Weight	213 lb. (97kg)

- Regulatory standards: cCSAus, CE, IEC61010-2-020, EN61326-1 2006
- Simple operation
- The Sorvall MTX 150 microultracentrifuge provides user-friendly, reliable operation to simplify rotor loading, instrument setup, and instrument operation. The Sorvall MTX 150 also offers visual tube balancing for enhanced ease of use.
- Self locking rotor system automatically secures the rotor to the drive shaft. This innovation eliminates the need to manually secure the rotor, facilitating rotor installation and enhancing safety.
- GMP/GLP Data compliance and Management
- The Sorvall MTX 150 offers traceability and quality control for biopharmaceutical processing needs. A USB port allows connectivity to a memory stick, facilitating output of operating data in CSV format.

Picture of Sorvall MTX 150 Micro-Ultracentrifuge



Accessories:

i) S55-S Swinging bucket Rotor

Catalogue No.: 45594

Capacity (#places*volume): 4*2.2 ml

Max speed: 55,000 rpm

Max RCF: 258,826*g

K Factor: 44

Includes 100 tubes

Quantity: 1

ii) S80-AT2 Fixed angle rotor

Catalogue no.: 45589

Capacity (#places *volume): 30*0.5 ml

Max speed: 80,000 rpm

Max RCF: 357,440*g

K Factor: 14.0

Includes 100 tubes

Quantity:1

iii) S52-ST Swinging bucket rotor

Catalogue No.: 45977

Capacity (#places *volume): 4*5 ml

Max speed: 52,000 rpm

Max RCF: 275,458*g

K Factor: 79

Includes 100 tubes

Quantity: 1