

GUIDELINES FOR ROTOR SPEED DERATION AND USE OF THE OVERSPEED DECAL

Deration (lowering) of the maximum operating speed is required in several cases of ULTRASPEED rotor use as described below.

ULTRASPEED centrifugation stresses the rotor body and buckets and necessitates the eventual deration (lowering) of the maximum operating speed of several ULTRASPEED rotors. The maximum operating speed must be derated by 10% after 1,000 runs or 2,500 hours of use, whichever comes first, for the following rotors:

- all aluminum ULTRASPEED fixed-angle and swinging-bucket rotors,
- all titanium ULTRASPEED swinging-bucket rotors.

Note that titanium ULTRASPEED fixed-angle rotors and ULTRASPEED vertical and zonal rotors do not have their maximum operating speeds derated. These rotors must be retired from use after 5,000 runs as specified in your rotor instruction manual.

After the maximum speed has been derated by 10%, the new lowered maximum speed must be used in all calcula-

tions and during all operations for the ensuing 1,000 runs or 2,500 hours of use. Also the overspeed decal on the bottom of the rotor must be replaced with the appropriate new decal for the lowered speed (select from the table below).

Compartment loads in excess of design mass also require deration of the maximum operating speed for all rotors. The recommended design mass of the rotor represents the maximum mass that each compartment can contain at top speed and the maximum operating speed is based on this. When the mass of tube, sample, adapter, and tube cover exceed the design mass, the rotor speed must be lowered using the square-root deration formula. Please refer to your rotor instruction manual for this procedure.

The use of cesium chloride or other material where precipitation during centrifugation is possible requires the deration of the maximum operating speed for all rotors. Please refer to your rotor instruction manual for this procedure.

ROTOR OVERSPEED DECALS

SPEED (rpm)	CATALOG NUMBER	NO. BLACK SEGMENTS	SPEED (rpm)	CATALOG NUMBER	NO. BLACK SEGMENTS	SPEED (rpm)	CATALOG NUMBER	NO. BLACK SEGMENTS
18,000	52279	48	30,000	51361	30	45,000	51351	20
19,000	52278	47	31,000	51360	29	47,500	51350	19
20,000	54403	45	32,000	51359	28	50,000	51349	18
21,000	52277	43	33,500	51358	27	53,000	51348	17
25,000	51367	36	35,000	51357	26	56,000	51347	16
25,500	51366	35	36,000	51356	25	60,000	51346	15
26,000	51365	34	37,500	51355	24	65,000	51345	14
27,000	51364	33	39,000	51354	23	70,000	08254	13
28,000	51363	32	41,000	51353	22	75,000	52632	12
29,000	51362	31	43,000	51352	21	80,000	11628	11
						90,000	11696	10