Doty MAS Spinning Speeds

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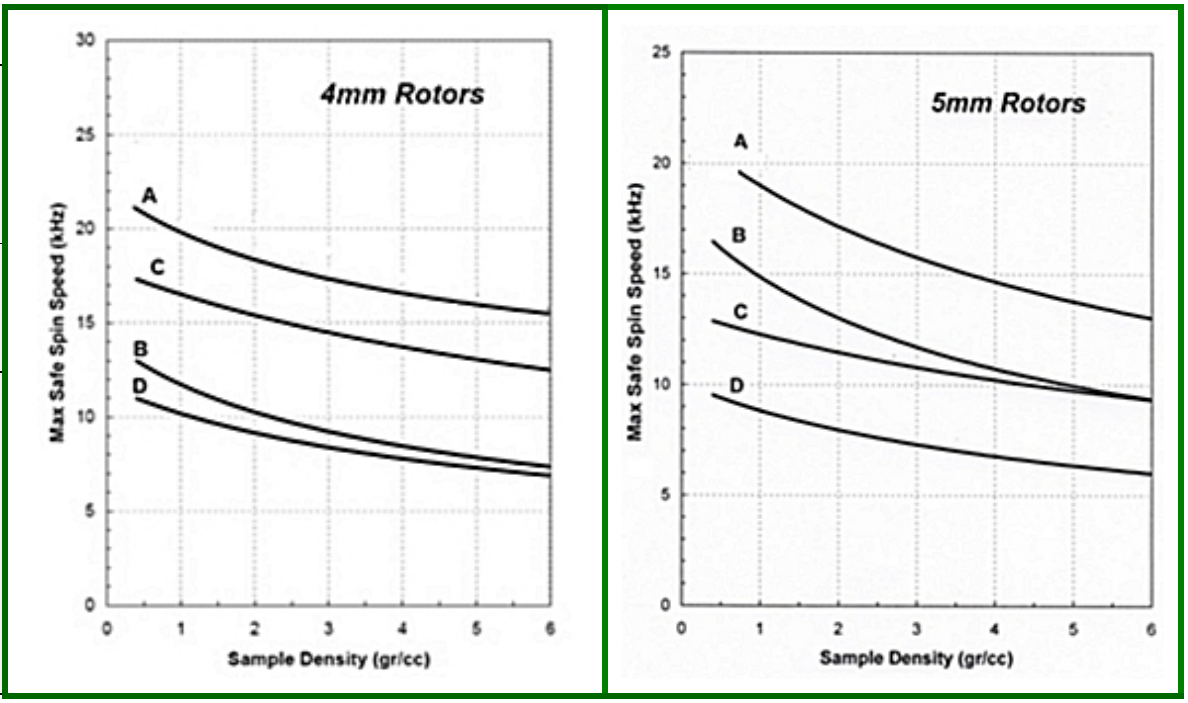
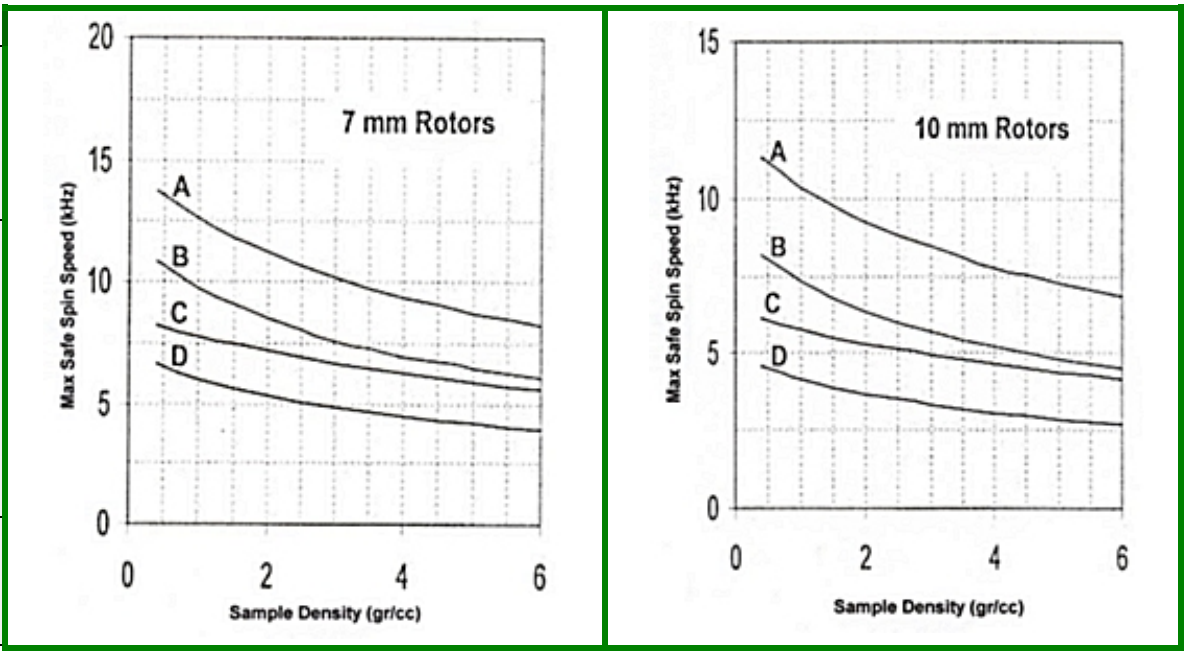
See 3 mm next page.

Maximum **PROBE** Speeds (kHz)	
DI 4	18
XC4	22
XC5	18
5 SS	18
5 HS	14
5 Std	9



A - Si_3N_4 *Thick Wall* | B - Si_3N_4 *Thin Wall* | C - *Zr Thick Wall* | D - *Zr Thin Wall*

Maximum **PROBE** Speeds (kHz)	
XC7	12
7 SS	12
7 HS	9
7 Std	6
XC10	8.5
10 SS	8.5



MAS Turbine Cap Spinning Speeds

Maximum Spinning Speeds (kHz) For Caps at Room Temperature

Cap Style	4 mm	5-mm XC or SuperSonic	5-mm Standard & High-Speed	7-mm XC or SuperSonic	7-mm Standard & High-Speed	10-mm XC, SuperSonic
Kel-F	11	10	9	7	6	5
Torlon or GFT	22	18	14	12	9	8.5
Vespel	21	16	14	12	9	8
Aurum	22	18	14	12	9	8.5
Caps with o-rings	----------	10	9	7	6	5
Vespel w/screw	----------	----------	9	12	11	8

Note: This chart represents only material characteristics for caps. Check the Probe Specifications. The spinning speed is often more limited by the probe or the rotor material.

3 mm Maximum MAS Spinning Speeds

Use the lower of the speeds listed: considering the rotor, the cap, the temperature and the density maximum speeds

Rotors:	***The maximum speed must be reduced as the density of the sample increases***	
DI3 Silicon Nitride Rotors Maximum Speed	**28 KHz**	**For sample density = 1**
	26 KHz	**For sample density = 3**

Maximum Spinning Speeds (kHz) For Caps at Room Temperature

Cap Style	DI3	Spinning Temperature	Cap Material Temperature Range
Torlon Front Turbine Cap	**28 KHz**	**At Room Temperature**	-30° to 80 °C
Torlon Rear Tip Cap	**28 KHz**		
GFT* Front Turbine Cap	**26 KHz**	**At Room Temperature**	**-120° to 160 °C**
GFT* Rear Tip Cap	**26 KHz**		
Aurum Front Turbine Cap	**18 KHz**	**At Room Temperature**	-30° to 80 °C
Aurum Rear Tip Cap	**18 KHz**		
Kel-F Front Turbine Cap	**11 KHz**	**At Room Temperature**	-20° to 70 °C
Kel-F Rear Tip Cap	**11 KHz**		

Maximum Spinning Speeds (KHz) For Caps at Extended Temperatures

Glass Filled Torlon (GFT)*	**14 KHz**	**At -80°C**	-120° to 160 °C
Glass Filled Torlon (GFT)*	**14 KHz**	**At +120°C**	-120° to 160 °C

* Note: **GFT caps** can be used up to 250 °C or down to -170 °C if they are glued in with epoxy. **However the probe must be rated for these extended temperatures.**