

Accessories for the XC and SuperSonic (SS) MAS Spinners

XC Rotors

4 mm XC4 Length =20.95 mm			
Sample – 66 µL to 124 µL			
Low density* Spinning maximum kHz			
# 43255	Silicon Nitride XC Thick Wall Rotor	24	\$800
# 43483	Zirconia XC Thin Wall Rotor	11	620

5 mm XC5 Length =22.25 mm			
Sample – 82 µL to 201 µL			
Low density* Spinning maximum kHz			
# 13265	Silicon Nitride XC Thick Wall Rotor	18	\$800
# 13266	Zirconia XC Thick Wall Rotor	13	560
# 13267	Silicon Nitride XC Thin Wall Rotor	16	875
#13268	Zirconia XC Thin Wall Rotor	9	620

7 mm XC7 Length =29.00 mm			
Sample – 241 µL to 564 µL			
Low density* Spinning maximum kHz			
# 43526	Silicon Nitride XC Thick Wall Rotor	12	\$800
# 43528	Zirconia XC Thick Wall Rotor	8	560
# 43527	Silicon Nitride XC Thin Wall Rotor	11	875
# 43529	Zirconia XC Thin Wall Rotor	7	620

10 mm XC10 Length =35.00 mm			
Sample volume – .6 mL to 1.10 mL			
Low density* Spinning maximum kHz			
# 44265	Zirconia XC Thick Wall Rotor	8.5	\$735
# 44266	Zirconia XC Thin Wall Rotor	4.5	775



SuperSonic Rotors

5 mm SuperSonic Length =14.93 mm			
Sample volume – 56 µL to 110 µL			
Low density* Spinning maximum kHz			
# 13251	Silicon Nitride SS Thick Wall Rotor	18	\$600
# 13252	Zirconia SS Thick Wall Rotor	13	425
# 42388	Silicon Nitride SS Thin Wall Rotor	16	650
# 42396	Zirconia SS Thin Wall Rotor	9	450

7 mm SuperSonic Length =22.10 mm			
Sample volume – 215 µL to 360 µL			
Low density* Spinning maximum kHz			
# 13857	Silicon Nitride SS Thick Wall Rotor	12	\$ 600
# 13858	Zirconia SS Thick Wall Rotor	8	425
# 13859	Silicon Nitride SS Thin Wall Rotor	11	650
# 13861	Zirconia SS Thin Wall Rotor	7	450

10 mm SuperSonic Length =27.50 mm			
Sample volume – .6 mL to 1.10 mL			
Low density* Spinning maximum kHz			
# 42113	Silicon Nitride SS Thick Wall Rotor	8.5	\$ 725
# 42138	Zirconia SS Thick Wall Rotor	6	725
# 42193	Silicon Nitride SS Thin Wall Rotor	8	775
# 42173	Zirconia SS Thin Wall Rotor	4.5	775

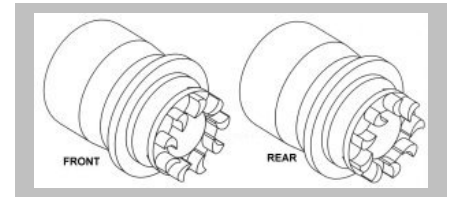
- Thick wall rotors and GFT or Torlon caps are provided for **fastest spinning** and ease in packing. Thin wall rotors and caps are available for maximum signal to noise. The maximum speed of thin wall rotors is about 50% the speed of thick wall rotors. Long caps are provided for highest homogeneity and rf field strength.
- **For XC probes**, (beginning in 2000) **XC "Slow MAS"** is provided for stable very slow spinning of tissues, liquids, and CC by a change in "nozzle caps" only. **The same turbine caps are used.** All choices of XC rotors and caps may be used with slow spin nozzle caps. A 50% reduction in maximum spinning speeds should be expected for each type. See page 4 for more specifications.
- XC, SuperSonic, DI, High Speed, and Standard accessories are **not** interchangeable unless specified. If unsure about correct supplies, contact us with the probe DSI-serial number and we can help.

* Please refer to the APPENDIX for the **speeds/density spinning speed chart** and for material information.

(US\$ – Foreign prices higher, plus taxes)

Accessories for XC and SS Continued

XC and SuperSonic rotors are different, but the XC and SS caps are, for the most part, interchangeable. Supersonic O-ring caps can be used for XC, but usually XC sealing cells are preferred.



XC4 Part #	5 mm XC/SS Part #	7 mm XC/SS Part #	10 mm XC/SS Part #	Description	Price
Caps for THICK Wall Rotors – fastest spinning					
99705	96432	96462	96436	XC/SS Kel-F Short Thick Cap Pair	\$155
99702	99844	99637		XC Only Kel-F Long Thick Cap Pair	155
99684	99822	99816		XC/SS GFT Short Thick Cap Pair (glass filled torlon)	175
99685	99821			XC Only GFT Long Thick Cap Pair (glass filled torlon)	175
96431	96457	96466	96438	XC/SS Aurum or Torlon Short Thick Cap Pair	175
96433	99839	99641		XC Only Aurum or Torlon Long Thick Cap Pair	175
----	96459	96468	96449	Kel-F O-Ring Cap Pair	250
----	96461	96469	96451	Aurum or Torlon O-Ring Cap Pair	250
Caps for THIN Wall Rotors					
99699	96434	96464	96471	XC/SS Kel-F Short Thin Cap Pair	\$155
99697	99835	99635		XC Only Kel-F Long Thin Cap Pair	155
99686	99824	99817		XC/SS GFT Short Thin Cap Pair (glass filled torlon)	175
99687	99823			XC Only GFT Long Thin Cap Pair (glass filled torlon)	175
99722	99834	96465	96473	XC/SS Aurum or Torlon Short Thin Cap Pair	175
99723	99833	99636		XC Only Aurum or Torlon Long Thin Cap Pair	175
Cap Pullers and Accessories					
96182	96182	96360	96174	Puller for Turbine Caps	\$210
----	96175	96170	96190	Threaded Cap Puller for O-ring Caps	110
01026	06019	06023	----	Rotor Holder – use with plungers below	45
01028	06021	43761	----	Plunger - thick wall- to push out caps or sealing cells	35
01029	06022	42039	----	Plunger - thin wall- to push out caps or sealing cells	35
99683	96511	96113	96508	XC Sample Packing Set for Thick Wall Rotors	\$160
99682	96513	96114	96507	XC Sample Packing Set for Thin Wall Rotors	160
----	96509	96510	96508	SS Sample Packing Set for Thick Wall Rotors	\$160
----	96515	96517	96507	SS Sample Packing Set for Thin Wall Rotors	160

MAS Turbine Cap Spinning Speeds

Maximum Spinning Speeds (kHz) For Caps at Room Temperature

Cap Style	4 mm XC	5-mm XC or SuperSonic	7-mm XC or SuperSonic	10-mm XC or SuperSonic
Kel-F	11	10	7	5
Caps with o-rings	-----	10	7	5
Aurum	24	20	14	10
Torlon or GFT	24	20	14	10

This chart represents only material characteristics for caps. Check the Probe and Rotor Specifications.

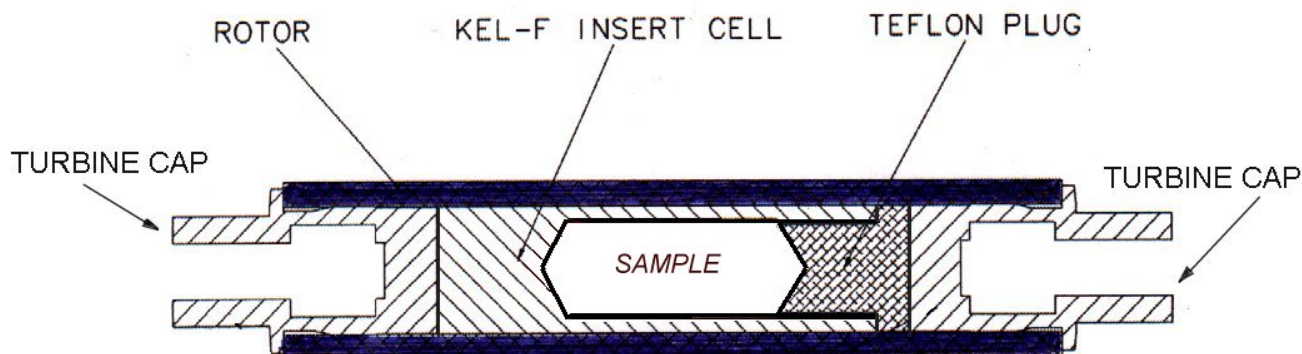
(US\$ – Foreign prices higher, plus taxes.)

DI and XC

Sealing Cells for Liquids and Semi-Solids

All sealing cells are for use inside XC and DI thin-walled ceramic rotors. The plastic cells are available in Kel-F with teflon plugs for proton NMR or in ultem with polyvinyl-chloride (PVC) plugs for fluorine NMR.

All cells are suitable for long-term sample storage without loss. They may be used with all common solvents, including acetone, alcohols, benzene, DMSO, ethers, methylene chloride, strong bases, and most strong acids – as long as the sample density does not exceed the density of the plug (2.2 g/cm³ for teflon, 1.4 g/cm³ for PVC).



DI and XC Kel-F (or Ultem) Insert Cell With Plug for Liquids or Semi-solid Samples

Note: DI rotors use a front turbine and a rear tip cap, not the rear turbine as shown in the sealing cell picture above.

4 mm DI4 Sealing Cells. (For thin wall rotors)

Kel-F cells with teflon plugs or Ultem cells with PVC plugs. Use with thin-walled rotors and caps.

	Kel-F Part #	Ultem Part #	Sample Volume	Price
DI4	95142	95143	50 μL	\$35
DI4	95141	95139	20 μL	35

5 mm XC5 Sealing Cells. (For thin wall rotors)

Kel-F cells with teflon plugs or Ultem cells with PVC plugs. Use with thin-walled rotors and short XC caps.

	Kel-F Part #	Ultem Part #	Sample Volume	Price
XC5	99801	99793	75 μL	\$35
XC5	99799	99792	50 μL	35
XC5	99797	99789	20 μL	35

4 mm XC4 Sealing Cells. (For thin wall rotors)

Kel-F cells with teflon plugs or Ultem cells with PVC plugs. Use with thin-walled rotors and short XC caps.

	Kel-F Part #	Ultem Part #	Sample Volume	Price
XC4	99694	99691	40 μL.....	\$35
XC4	99693	99689	20 μL	35
XC4	99692	99688	10 μL	35
XC4	99802	99796	4 μL	35

7 mm XC7 Sealing Cells. (For thin wall rotors)

Kel-F cells with teflon plugs or Ultem cells with PVC plugs. Use with thin-walled rotors and short XC caps.

	Kel-F Part #	Ultem Part #	Sample Volume	Price
XC7	99629	99633	225 μL	\$35
XC7	99628	99632	100 μL	35
XC7	99627	99631	50 μL	35