

ACCESSORIES

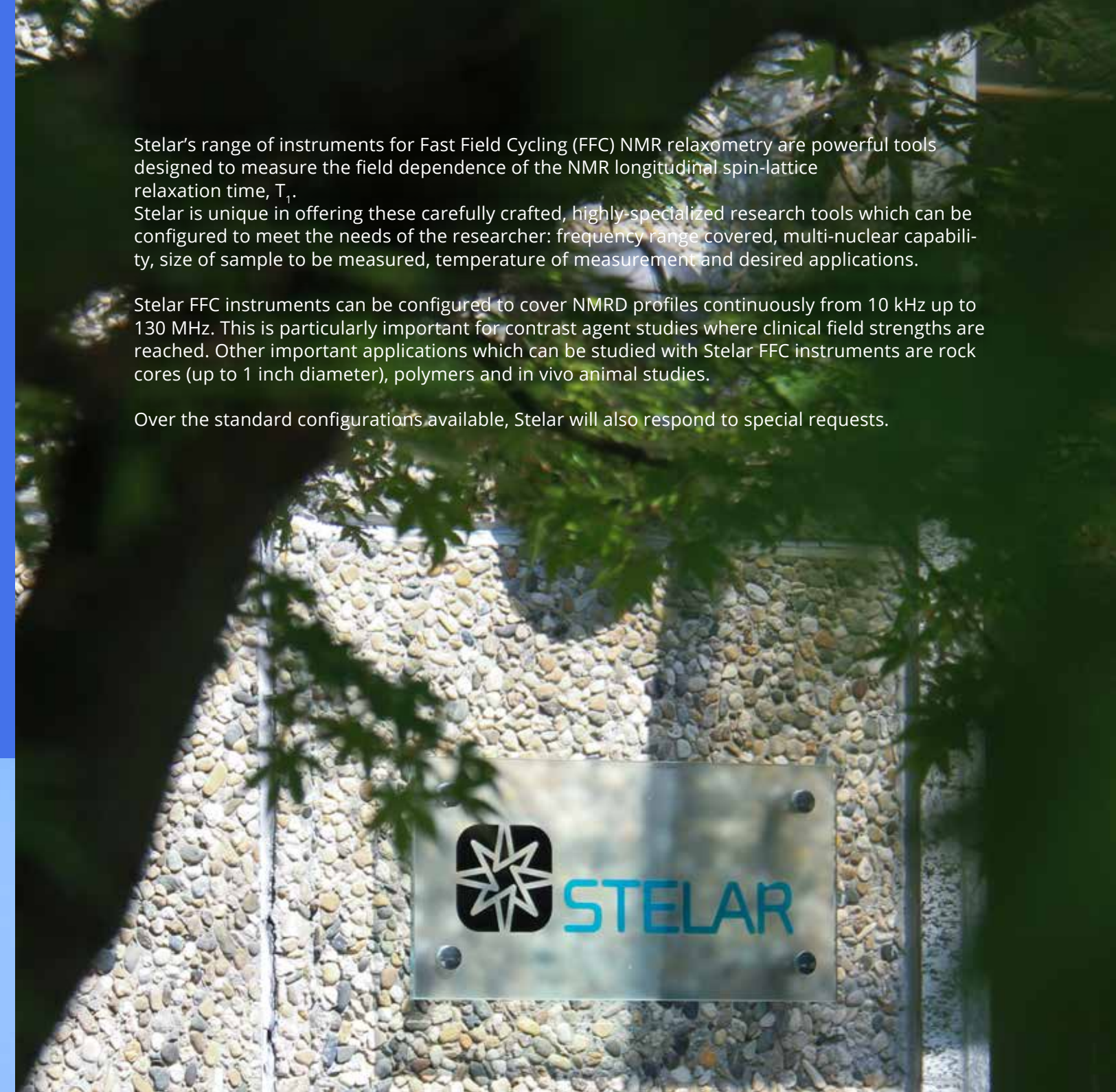
PARTS & ACCESSORIES	SPINMASTER			SMARtracer™		HTS-110 3T MAGNET
	1T	0.5T WB	DUO	0.25T NB	0.2T WB	
fluorine probe	✓	-	✓	✓	-	-
high temperature probe	✓	✓	✓	✓	✓	-
horizontal coil probe	✓	✓	✓	✓	✓	-
low-range front end	✓	-	✓	-	-	✓
variable temperature controller	✓	✓	✓	✓	✓	✓
zero-field (environmental field compensation)	✓	-	✓	✓	-	-
low-range probe	-	-	-	-	-	✓
frequency expander	-	-	-	-	-	✓
NMR workstation	-	-	-	-	-	✓

Stelar's range of instruments for Fast Field Cycling (FFC) NMR relaxometry are powerful tools designed to measure the field dependence of the NMR longitudinal spin-lattice relaxation time, T_1 .

Stelar is unique in offering these carefully crafted, highly-specialized research tools which can be configured to meet the needs of the researcher: frequency range covered, multi-nuclear capability, size of sample to be measured, temperature of measurement and desired applications.

Stelar FFC instruments can be configured to cover NMRD profiles continuously from 10 kHz up to 130 MHz. This is particularly important for contrast agent studies where clinical field strengths are reached. Other important applications which can be studied with Stelar FFC instruments are rock cores (up to 1 inch diameter), polymers and in vivo animal studies.

Over the standard configurations available, Stelar will also respond to special requests.



FAST FIELD CYCLING AND HIGH FIELD RELAXOMETRY PRODUCTS

For more info contact Stelar srl:



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SPINMASTER

The SPINMASTER FFC relaxometer is a unique powerful and versatile research grade instrument for measuring the field dependence of the NMR longitudinal spin-lattice relaxation time, T_1 , and offers superb performance for numerous applications. Relaxation times from a fraction of a millisecond to several seconds can be measured with ease and Stelar's new powerful software give the user a choice of a library of standard sequences or the freedom to program other complex sequences and field profiles.



SPINMASTER FFC RELAXOMETER RANGE			
magnet field strength	1 Tesla	0.5 Tesla Wide Bore	"DUO" 1Tesla & 0.5Tesla Wide Bore
NMR frequency range	10 kHz – 40 MHz	10 kHz – 20 MHz	10 kHz – 20 MHz & 10 kHz – 40 MHz
sample diameter	10 mm	26 mm	10 mm & 26 mm
multi-nuclear capability	^1H , ^2H , ^7Li , enriched ^{13}C , ^{23}Na , ^{31}P , ^{19}F * (et alii) [†]	^1H , ^2H , ^7Li , enriched ^{13}C , ^{23}Na , ^{31}P (et alii)	^1H , ^2H , ^7Li , enriched ^{13}C , ^{23}Na , ^{31}P , ^{19}F * (et alii) [†]
basic sample temperature	-140 °C to +140 °C with a 0.1 °C resolution		
maximum power	20 kW @100% duty cycle		
magnet homogeneity	<150 ppm over 1cm ³		
field switching time	< 1ms + 150 μs*MHz		
size and weight	143 x 173 x 61 cm; approx. 700 kg		

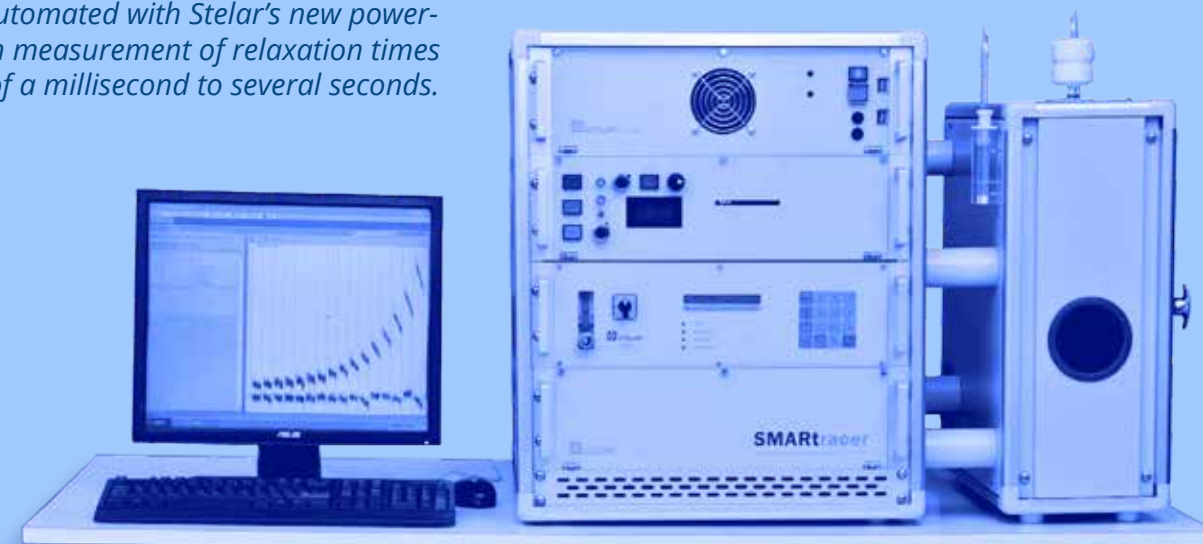
* with additional fluorine probe

† with low range front end accessories for low frequency nuclei

SMARTRACER™



The SMARtracer™ FFC relaxometer provides the perfect compact, bench-top solution to measuring the field dependence of the NMR longitudinal spin-lattice relaxation time, T_1 . Acquisition of NMRD profiles is fully automated with Stelar's new powerful software, with measurement of relaxation times from a fraction of a millisecond to several seconds.



SMARtracer™ FFC RELAXOMETER RANGE		
magnet field strength	0.2 Tesla Narrow bore	0.2 Tesla Wide Bore
NMR frequency range	10 kHz – 10 MHz	
sample diameter	10 mm	26 mm
multi-nuclear capability	^1H , ^{19}F * (et alii) [†]	^1H , ^{19}F * (et alii) [†]
basic sample temperature	-140 °C to +140 °C with a 0.1 °C resolution	
maximum power	2.5 kW	4 kW
magnet homogeneity	<150 ppm over 1cm ³	
field switching time	<1ms + 150 μs*MHz	
size and weight	143 x 173 x 61 cm; approx. 75 kg	

* with additional fluorine probe

† within the limits of sensitivity

HIGH FIELD RELAXOMETRY

In collaboration with HTS-110 (New Zealand), Stelar is pleased to offer the HTS-110 3T variable field, cryogen-free superconducting magnet as an exclusive solution to extend the upper field range for acquisition of NMRD profiles up to 130 MHz. This magnet can be combined with and operated through both the Stelar SPINMASTER or SMARtracer™ systems or operated alone with the Stelar PC-NMR workstation. This allows the user complete freedom to choose the best set-up for the desired application and budget.

HTS-110 3T MAGNET PRODUCT COMBINATIONS	HTS-110 3T MAGNET + NMR WORKSTATION	HTS-110 3T MAGNET + SMARtracer™	HTS-110 3T MAGNET + SPINMASTER
frequency range	10 MHz – 130 MHz	10 kHz – 130 MHz	
sample access slot (3T)	25 x 150 mm		
3T magnet uniformity	>50 ppm uniformity (10 mm DSV) across the excitation range (<1 ppm with RT shims)		
3T magnet power requirements	50/60 Hz, ~4 kW		
3T System mass	450 kg + 15 kg NMR workstation	450 kg + 75kg SMT	450 kg + 700 kg SPM

