Vol. A02

SHIGEMI®

產　品　型　錄

NMR / EPR Tubes

SHIGEMI Co., LTD

TOKYO JAPAN

經銷代理商 ：

盈凱科技有限公司

電 話: (+886)-2-8919-3111 傳 真: (+886) 2-2914-3329

We Care Technology Co.,Ltd

sales : *Johnson Yu*

mail : *mtray0618@gmail.com*

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Symmetrical MICRO NMR Tubes

These unique NMR microtubes are made out of a special type of hard glass with excellent chemical durability. They are magnetic susceptibility matched to each of the following solvents:

- **CDCL3**
- **CD3OD**
- **D20**
- **DMSO**

Therefore, the best resolution of a sample can be obtained in each of these solutions with minimal amounts of sample. Yet, the use of a small amount of solution will not affect the spectral resolution or the sideband.

How to use Symmetrical MICRO NMR Tubes

★ **Do not sppining**

★ **We do not garanty auto shimming**

Plaese make shim file from 0

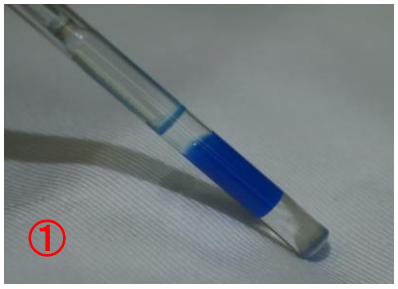
★ **Plaese take out bables**

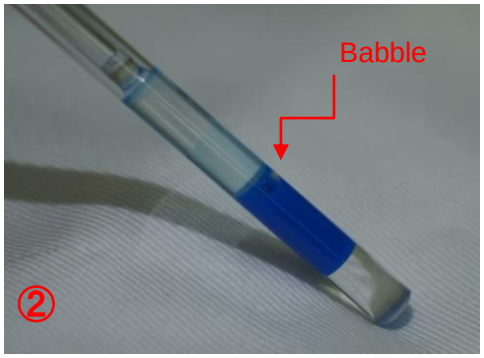
①You turn in an inner tubeslowly

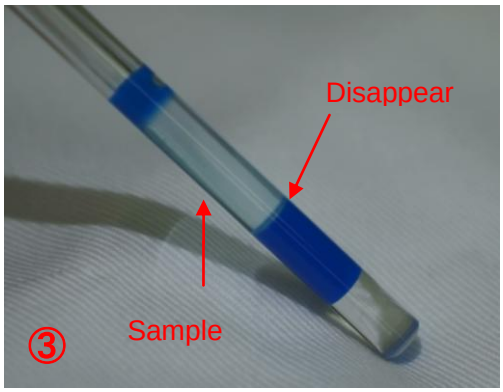
②Brief stop when a inner tube tach at sample surface.

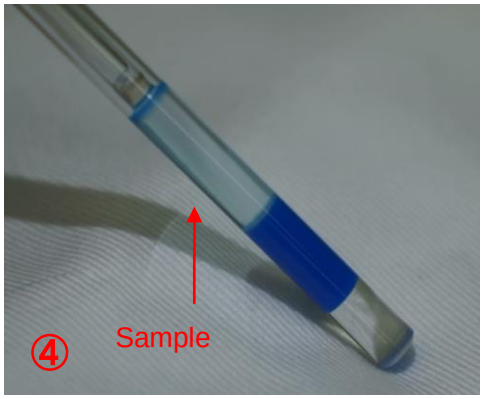
③You push quick a inner tube

④Bables was disapred return an inner tube right possition









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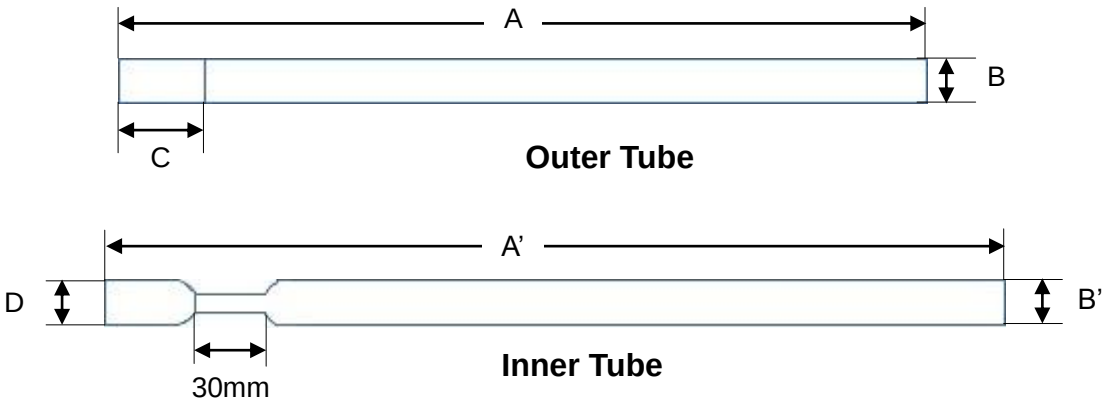
Symmetrical MICRO NMR Tubes for D_2O



Parts N.O.		Outer Tube(mm)			Inner Tube(mm)			Case Quantity
		Length A	O.D B	Muched Glass C	Length A'	O.D. B'	Muched glass D	
2.5mmφ	BMS-0025	120	2.5 +0 -0.01	6	115	1.8	1.86 +0 -0.01	5sets
3mmφ	BMS-003	180	3.00 -0.01 -0.02	10	190	2.4	2.47 +0 -0.01	5sets
4mmφ	BMS-004B	180	4.000 +0.005 -0.010	8	190	3.1	3.16 +0 -0.01	5sets
	BMS-004J	180	4.000 +0.005 -0.010	12	190	3.1	3.16 +0 -0.01	5sets
	BMS-005V	180	4.000 +0.005 -0.010	15	190	3.1	3.16 +0 -0.01	5sets
5mmφ	BMS-005B	180	4.965 +0.005 -0.010	8	190	4.1	4.17 +0 -0.01	5sets
	BMS-005J	180	4.965 +0.005 -0.010	12	190	4.1	4.17 +0 -0.01	5sets
	BMS-005V	180	4.965 +0.005 -0.010	15	190	4.1	4.17 +0 -0.01	5sets
8mmφ	BMS-008BJ	190	7.98 ±0.01	10	200	6.9	6.97 +0 -0.01	2sets
	BMS-008V	190	7.98 ±0.01	15	200	6.9	6.97 +0 -0.01	2sets
10mmφ	BMS-010BJ	190	9.98 +0 -0.01	10	200	8.9	8.97 +0 -0.01	2sets
	BMS-010V	190	8.98 ±0.01	15	200	8.9	8.97 +0 -0.01	2sets

Part N.O. :

The end character J and BJ is for JEOL, B and BJ is for Bruker, V is for Varian (Agilent).

BMS-0025 for Bruker and BMS-003 for every system.

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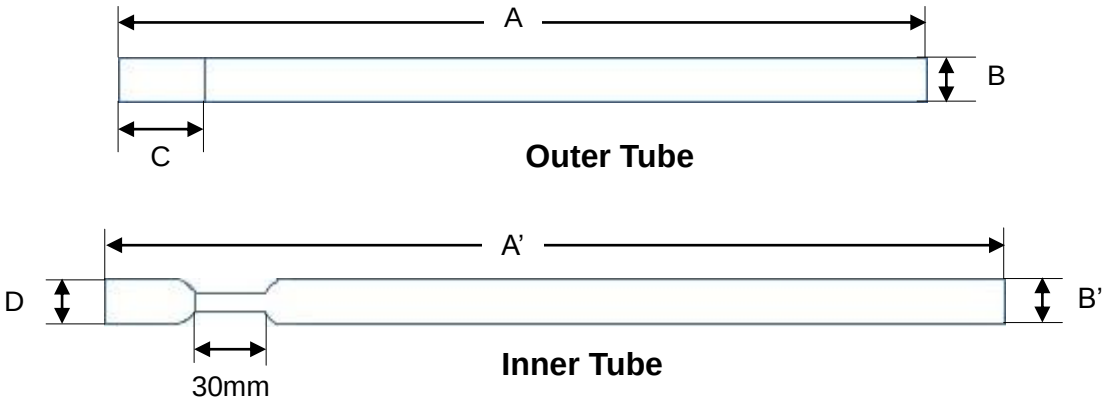
Symmetrical MICRO NMR Tubes for $CDCl_3$



Parts N.O.		Outer Tube(mm)			Inner Tube(mm)			Case Quantity
		Length A	O.D B	Muched glass C	Length A'	O.D. B'	Muched glass D	
2.5mmφ	CMS-0025	120	2.5 +0 -0.01	6	115	1.8	1.86 +0 -0.01	5sets
3mmφ	CMS-003	180	3.00 -0.01 -0.02	10	190	2.4	2.47 +0 -0.01	5sets
5mmφ	CMS-005B	180	4.965 +0.005 -0.010	8	190	4.1	4.17 +0 -0.01	5sets
	CMS-005J	180	4.965 +0.005 -0.010	12	190	4.1	4.17 +0 -0.01	5sets
	CMS-005V	180	4.965 +0.005 -0.010	15	190	4.1	4.17 +0 -0.01	5sets
8mmφ	CMS-008BJ	190	7.98 ±0.01	10	200	6.9	6.97 +0 -0.01	2sets
	CMS-008V	190	7.98 ±0.01	15	200	6.9	6.97 +0 -0.01	2sets
10mmφ	CMS-010BJ	190	9.98 +0 -0.01	10	200	8.9	8.97 +0 -0.01	2sets
	CMS-010V	190	8.98 ±0.01	15	200	8.9	8.97 +0 -0.01	2sets

Part N.O. :

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CMS-0025 for Bruker and CMS-003 for every system.

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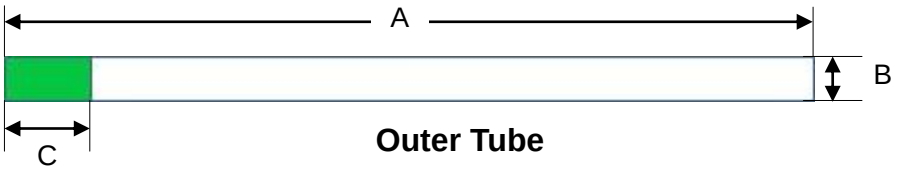
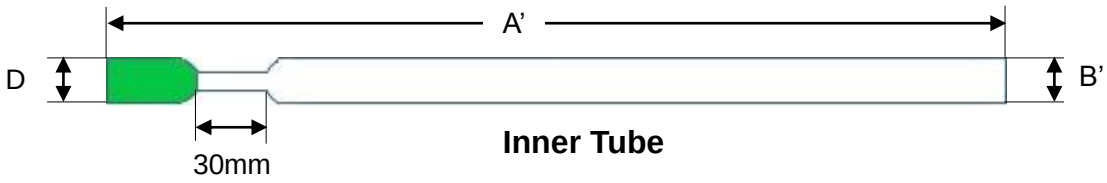
Symmetrical MICRO NMR Tubes for

DMSO $(CD_3)_2SO$, C_6D_6, C_5D_5N



Outer Tube



Inner Tube

Parts N.O.		Outer Tube(mm)			Inner Tube(mm)			Case Quantity
		Length A	O.D B	Muchedglass C	Length A'	O.D. B'	Muched glass D	
2.5mmφ	DMS-0025	120	2.5 +0 -0.01	6	115	1.8	1.86 +0 -0.01	5 sets
3mmφ	DMS-003	180	3.00 -0.01 -0.02	10	190	2.4	2.47 +0 -0.01	5 sets
5mmφ	DMS-005B	180	4.965 +0.005 -0.010	8	190	4.1	4.17 +0 -0.01	5 sets
	DMS-005J	180	4.965 +0.005 -0.010	12	190	4.1	4.17 +0 -0.01	5 sets
	DMS-005V	180	4.965 +0.005 -0.010	15	190	4.1	4.17 +0 -0.01	5 sets
8mmφ	DMS-008BJ	190	7.98 ±0.01	10	200	6.9	6.97 +0 -0.01	2 sets
	DMS-008V	190	7.98 ±0.01	15	200	6.9	6.97 +0 -0.01	2 sets
10mmφ	DMS-010BJ	190	9.98 +0 -0.01	10	200	8.9	8.97 +0 -0.01	2 sets
	DMS-010V	190	8.98 ±0.01	15	200	8.9	8.97 +0 -0.01	2 sets

Part N.O. :

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DMS-0025 for Bruker and DMS-003 for every system.

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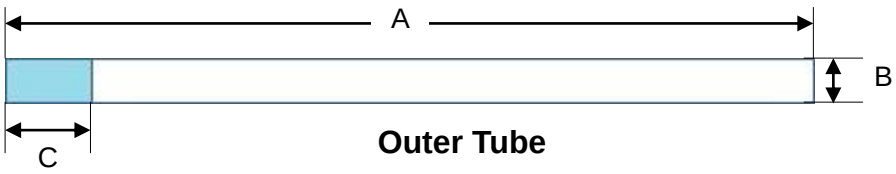
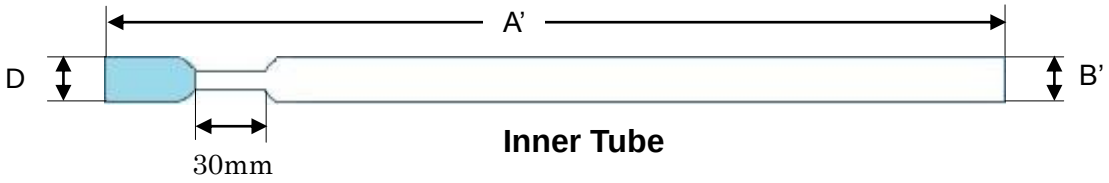
Symmetrical MICRO NMR Tubes for

CD_3OD, CD_3CN





Parts N.O.		Outer Tube(mm)			Inner Tube(mm)			Case Quantity
		Length A	O.D B	Muched glass C	Length A'	O.D. B'	Muched glass D	
2.5mmφ	MMS-0025	120	2.5 +0 -0.01	6	115	1.8	1.86 +0 -0.01	5 sets
3mmφ	MMS-003	180	3.00 -0.01 -0.02	10	190	2.4	2.47 +0 -0.01	5 sets
5mmφ	MMS-005B	180	4.965 +0.005 -0.010	8	190	4.1	4.17 +0 -0.01	5 sets
	MMS-005J	180	4.965 +0.005 -0.010	12	190	4.1	4.17 +0 -0.01	5 sets
	MMS-005V	180	4.965 +0.005 -0.010	15	190	4.1	4.17 +0 -0.01	5 sets
8mmφ	MMS-008BJ	190	7.98 ±0.01	10	200	6.9	6.97 +0 -0.01	2 sets
	MMS-008V	190	7.98 ±0.01	15	200	6.9	6.97 +0 -0.01	2 sets
10mmφ	MMS-010BJ	190	9.98 +0 -0.01	10	200	8.9	8.97 +0 -0.01	2 sets
	MMS-010V	190	8.98 ±0.01	15	200	8.9	8.97 +0 -0.01	2 sets

Part N.O. :

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MMS-0025 for Bruker and MMS-003 for every system.

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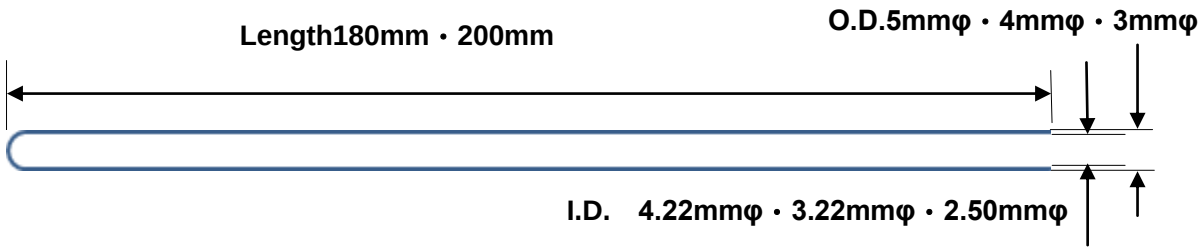
Ultra Precision NMR Sample Tubes



5mmφ Ultra Precision NMR Sample Tubes Thin wall

DURAN®

Parts N.O.	Dimension (mm)			Tolerance (μm)		Case Quantity
	Length	O.D.	I.D.	Straightness	wall thickness control	
PS-001-7	180	4.965 +0.005 -0.010	4.220 +0.01 -0	10	5	20
PS-001-8	200	4.965 +0.005 -0.010	4.220 +0.01 -0	10	5	20
PS-002-7	180	4.965 +0.005 -0.010	4.220 +0.01 -0	15	10	20
PS-002-8	200	4.965 +0.005 -0.010	4.220 +0.01 -0	15	10	20
PS-003-7	180	4.965 +0.005 -0.010	4.220 +0.01 -0	15	20	20
PS-003-8	200	4.965 +0.005 -0.010	4.220 +0.01 -0	15	20	20
PS-004-7	180	4.965 +0.005 -0.010	4.220 +0.01 -0	20	25	20
PS-004-8	200	4.965 +0.005 -0.010	4.220 +0.01 -0	20	25	20

PYREX®

4mmφ Ultra Precision NMR Sample Tubes Thin wall

Parts N.O.	Dimension (mm)			Tolerance (μm)		Case Quantity
	Length	O.D.	I.D.	Straightness	wall thickness control	
PR-001	180	4 +0 -0.01	3.22 +0.010 -0	15	10	20
PR-002	180	4.965 +0.005 -0.010	4.220 +0.01 -0	20	20	20

PYREX®

mmφ Ultra Precision NMR Sample Tubes Thin wall

Parts N.O.	Dimension (mm)			Tolerance (μm)		Case Quantity
	Length	O.D.	I.D.	Straightness	wall thickness control	
PN-001	180	3.0 +0.01 -0.02	2.5 +0.01 -0	15	5	20
PN-002	180	3.0 +0.01 -0.02	2.5 +0.01 -0	25	20	20

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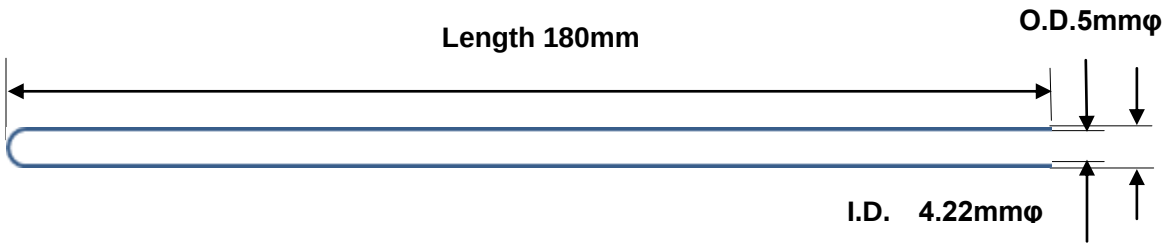
Economy NMR Sample Tubes

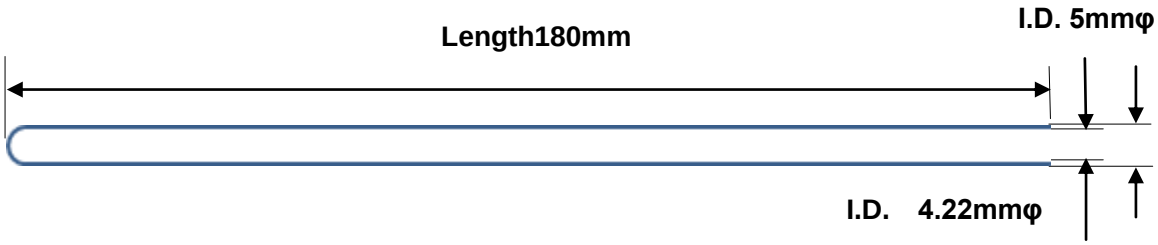
For ruotine examination. A quality as same PS-004-7 as Ultra Precision Tubes
We can sale a unit as 100 tubes only.



DURAN®

5mm Economy NMR Sample Tubes Thin Wall

Parts N.O.	Dimension (mm)			Tolerance (μm)		A unit
	Length	O.D.	I.D.	Straightness	Wall thickness control	
PS-005	180	4.965 +0.005 -0.010	4.220 +0.01 -0	25	40	100 pieces



★Matreal is Brosilicate glass ASTM Type1 Class A as DURAN® of Shott AG
★You can use Variable Temp. examination
★We can sale it a unit as 25 pieces only

Made of DURAN®

5mm Disporsable NMR Sample Tubes

Parts N.O.	Dimension (mm)			Straightness (μm)	Price /a piece (NT$)		Case (unit) Quantity
	Length	O.D.	I.D.		1 ~ 8 unit	Over 8units	
EC-57	180	4.965 +0.005 -0.010	4.220 ±0.10	30	250	200	25 pieces
EC-58	200	4.965 +0.005 -0.010	4.220 ±0.10	30	300	250	25 pieces

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5mmφ Micro Bottom Tubes

Benefit

★Become high concentration

★Save samples & solvent

★Can be set with 5mm spinner

★Much better DOSY & Diffusion (small amount of Temperature gradient)

★Can be used each probe as ☺

	5mm probe	4mm probe	3mm probe	2.5mm probe	1.7mm probe
SP501 5mm/1.7mm	Not recommend	Not recommend	☺	☺	☺
SP502 5mm/2mm	Not recommend	☺	☺	☺	X
SP503 5mm/2.5mm	☺	☺	☺	☺	X
SP504 5mm/3mm	☺	☺	☺	X	X
SP505 5mm/4mm	☺	☺	X	X	X

★Matreal is Brosilicate glass ASTM Type1 Class A as DURAN® of Shott AG

★You can use Variable Temp. examination

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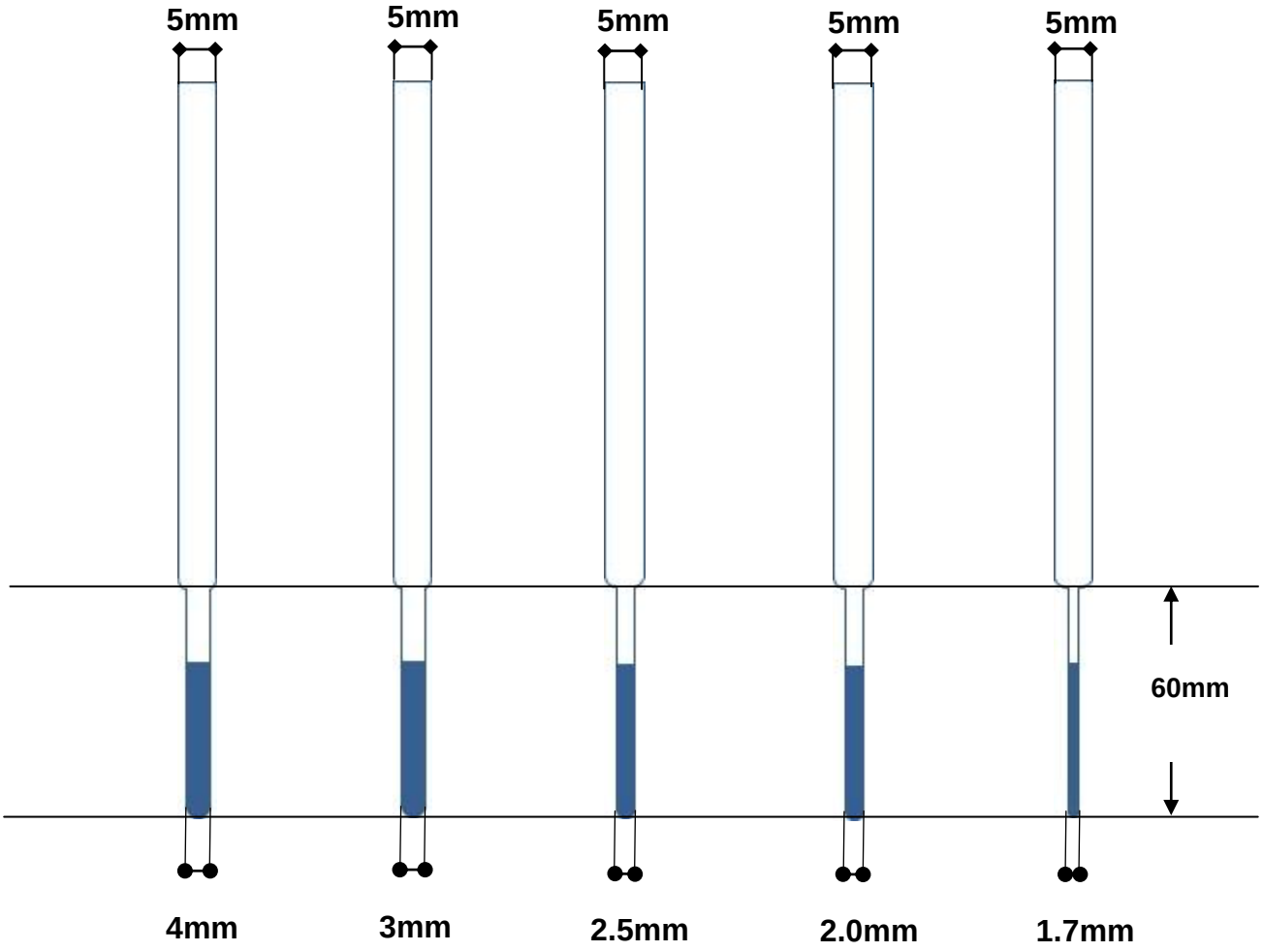
5mmφ Micro Bottom Tubes



Volume comparison

Sample hight	4mm(SP-505)	3mm(SP-504)	2.5mm(SP-503)	2.0mm(SP-502)	1.7mm(SP-501)	5mm Thin wall
30mm	223 uL	145 uL	84 uL	53 uL	34 uL	410uL
40mm	317 uL	194 uL	113 uL	70 uL	45 uL	549uL
50mm	398 uL	243 uL	141 uL	88 uL	56 uL	689uL

Parts N.O.	Overall Length	Upper O.D.	Stem Length	Stem O.D.	Stem I.D.
SP-501	180mm	5mm	60mm	1.7mm	1.2mm±0.01mm
SP-502	180mm	5mm	60mm	2mm	1.5mm±0.01mm
SP-503	180mm	5mm	60mm	2.5mm	1.9mm±0.01mm
SP-504	180mm	5mm	60mm	3mm	2.5mm±0.01mm
SP-505	180mm	5mm	60mm	4mm	3.2mm±0.01mm

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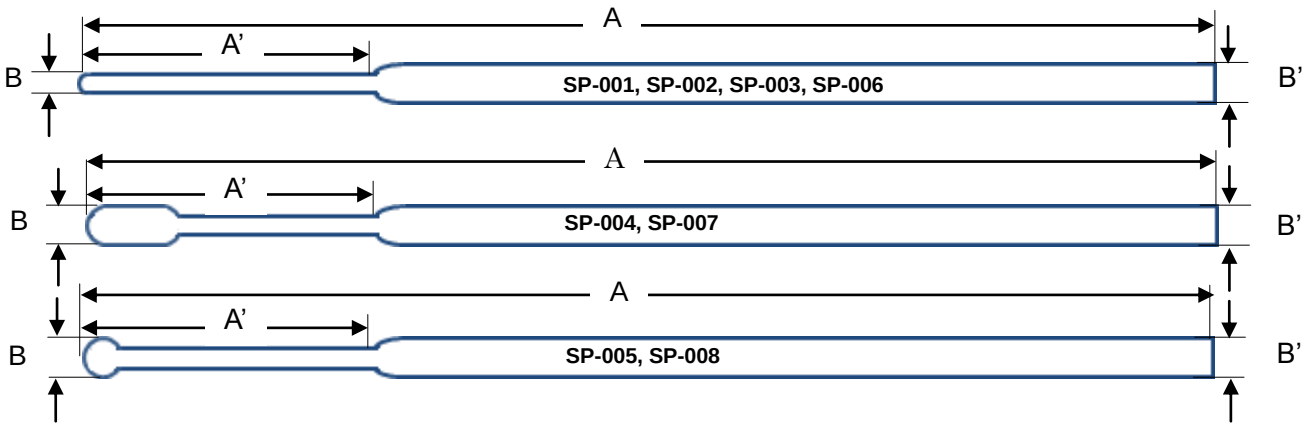
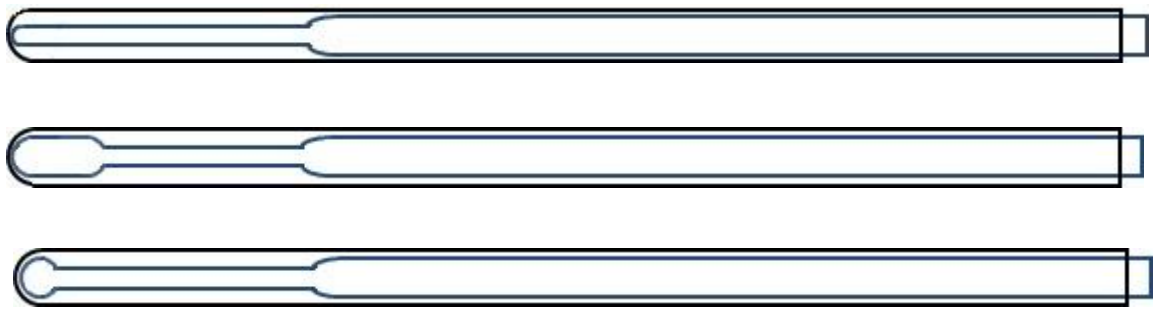
Micro cell Assembly

Insert tubes



To insert with	Parts N.O.	Dimension (mm)			
		Overall Length	Upper O.D.(B)	Stem Length (A')	Stem O.D. (B')
5mm tubes	SP-001	183	4.1	50	3.0±0.01
	SP-002	183	4.1	50	2.0±0.01
8mm tubes	SP-003	193	6.9	50	3.0±0.01
	SP-004	193	6.9	50	3.0±0.01
	SP-005	193	6.9	50	3.0±0.01
10mm tubes	SP-006	193	8.9	50	3.0±0.01
	SP-007	193	8.9	50	3.0±0.01
	SP-008	193	8.9	50	3.0±0.01

Assembly examples



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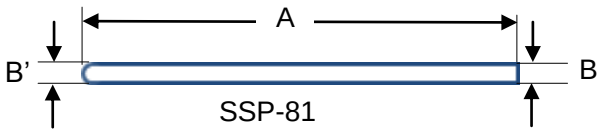
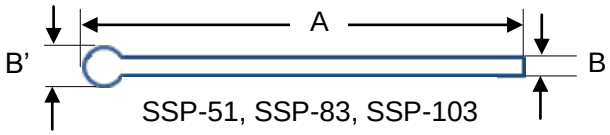
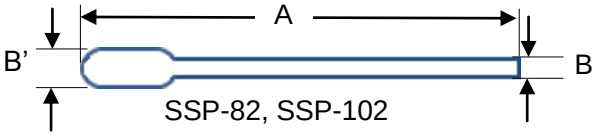
Micro cell Assembly



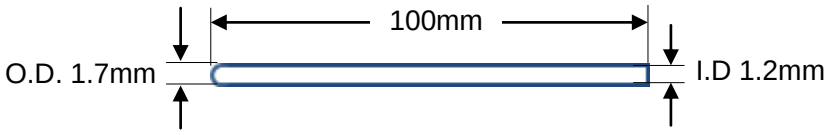




To insert with	Parts N.O.	Dimension (mm)		
		Overall Length (A)	Upper O.D.(B)	stem O.D.(B')
5mm tubes	SSP-51	100	1.7	4.1±0.025
8mm tubes	SSP-81	100	3.0	3.0±0.01
	SSP-82	100	3.0	6.9±0.01
	SSP-83	100	3.0	6.9±0.025
10mm tubes	SSP-102	100	3.0	8.9±0.01
	SSP-103	100	3.0	8.9±0.025

Assembly example

★Bruker MACH™ System NMR Tubes



Parts N.O.		O.D(mm)	I.D(mm)	Length(mm)
1.7mm	RRM-001	1.7 +0 -0.02	1.2±0.1	100

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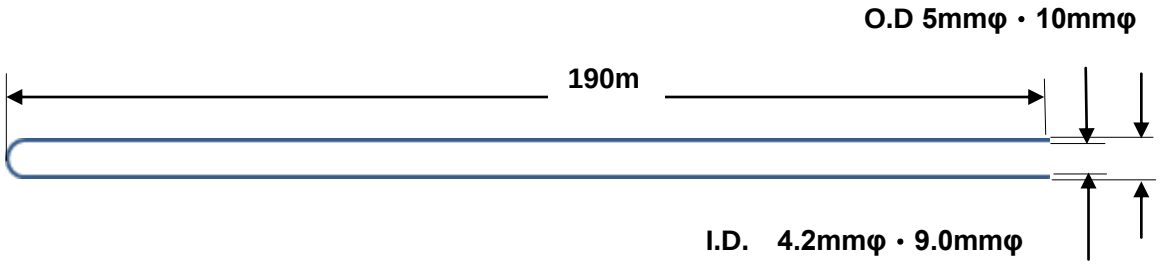
Quartz NMR Tubes

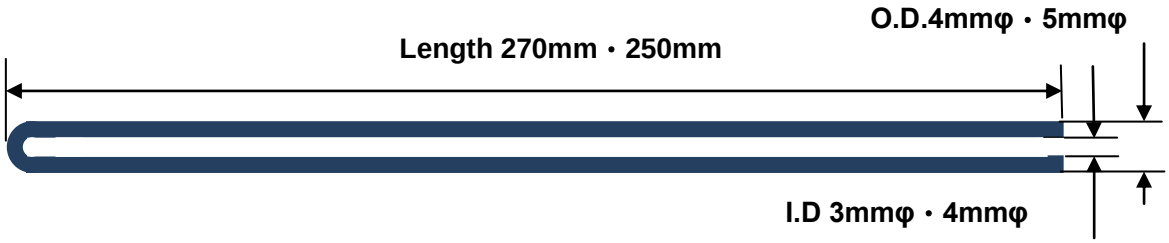


Parts N.O.	Dimension (mm)			Price/a peace	Material	For
	Length	O.D.	I.D.			
SS-002	190	4.965 -0.005 -0.010	4.20 ±0.1	3,500	Fused Silica	NMR
SS-0010	190	9.98 ±0.01	9.0 ±0.1	3,000	Fused Silica	NMR

Fused Silica	Metallic impurity (ppm)										OH radical
	Na	K	Li	Mg	Mn	Fe	Ca	Al	Tl	Zr	
	1.3	<3.0	1.0	0.5	0.1	1.9	1.8	20.3	1.4	2.4	＜5

ESR (EPR) Quartz Tubes

★Made of Fused Silica which is ultra-low background!!



Part N.O.	O.D.	I.D.	Length	Material	Price/ a piece (NT$)
EPS-004J	4mm	3mm	270mm	Fused Silica	1,500
EPS-004B	4mm	3mm	250mm	Fused Silica	1,500
EPS-005J	5mm	4mm	270mm	Fused Silica	2,000
EPS-005B	5mm	4mm	250mm	Fused Silica	2,000

Par N.O. : The end character J is for JEOL , B is for Bruker.

The matrial produce by Shinetsu Quartz Co. LTD

	Metallic impurity (ppm)								OH radical
Fused Silica	Na	K	Li	Mg	Cu	Fe	Ca	Al	
HERALUX-E-LA	<0.05	<0.1	0.05	<0.05	<0.05	0.1	0.5	15	20

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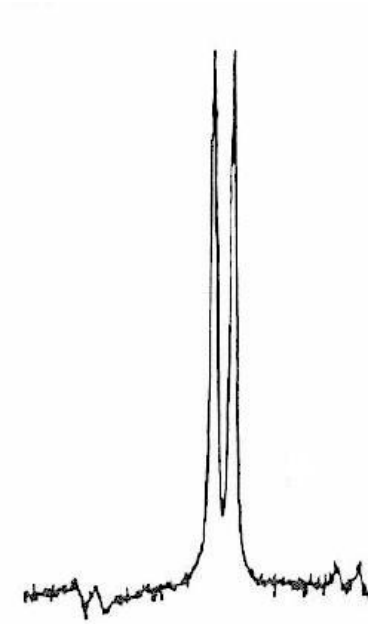
Ultra thin wall NMR Tubes

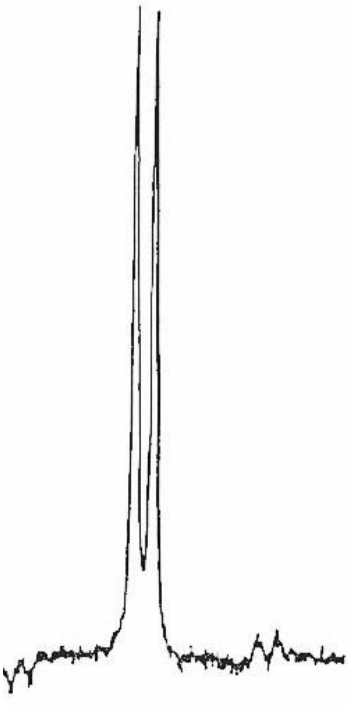
Benefit

- ★ Tube thicknees effect Signal to Noise
- ★ Volume gain
- ★ Sample approach RF coil
- ★ Better resolusion of NMR spectra (especialy Ultra High Feid Magnet)
- ★ Esy to use

★ 25% gain Sgnal to Noise



Ultra Precision NMR Sample Tubes
Figure 1



Thin wall NMR Tubes
Figure2

^{1}H NMR Data 1 scan 20mM Surcrose in D_2O 298°K Bruker 600MHz

U.S. Patent No.5, 573, 567

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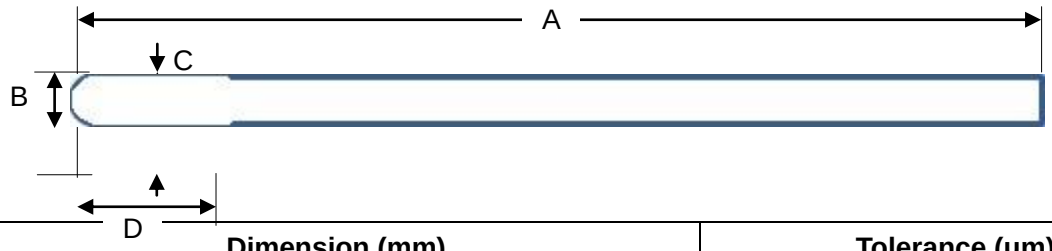
Ultra Thin wall NMR Tubes

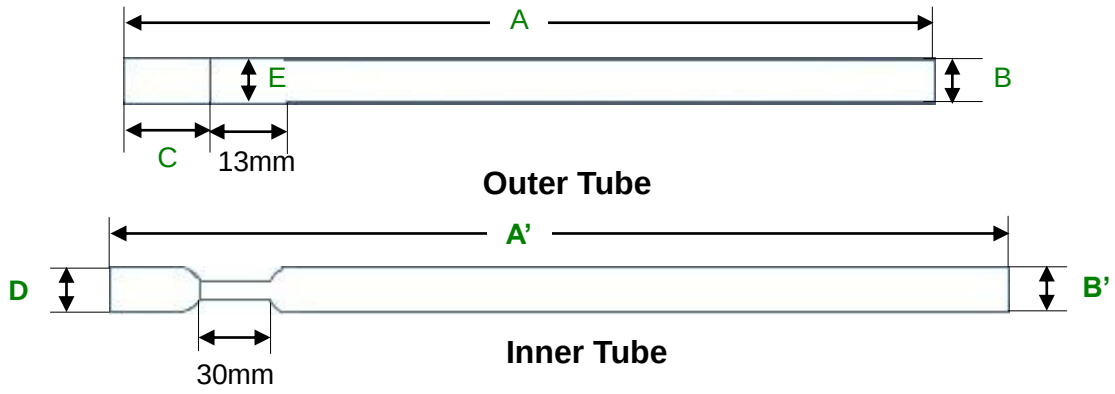


Parts N.O.	Dimension (mm)				Tolerance (μm)	
	Length(A)	O.D.(B)	Wall Thickness(C)	Length of thin wall(D)	Wall thickness control	Straightness
PST-001	180	4.965 +0.005 -0.010	0.21	50	10	10
PST-002	180	4.965 +0.005 -0.010	0.21	50	20	25
PS8-001	190	7.98 ±0.01	0.25	50	10	10
PS8-002	190	7.98 ±0.01	0.25	50	20	20

Volume comparison（30mm Height）

I.D(φ)	Ultara Thin wall		Thin wall
5mm	518μL	25% gain	410μL
8mm	1,347μL	21% gain	1,118μL

Thin wall Symmetrical MICRO NMR Tubes for D_2O



Parts N.O.		Outer Tube(mm)				Inner Tube(mm)		
		Length A	O.D. +0.005 -0.010 B	Muched Glass C	Thin Wall I.D. E	Length A'	O.D. B'	Mached Glass O.D. +0 -0.01 D
5mmφ	BMS-005T(B)	180	4.965	8	4.52	190	4.1	4.17
	BMS-005T(J)	180	4.965	12	4.52	190	4.1	4.17
	BMS-005T(V)	180	4.965	15	4.52	190	4.1	4.17
8mmφ	BMS-008T(B)	190	7.98 ±0.01	10	7.5	200	6.9	6.97
	BMS-008T(V)	190	7.98 ±0.01	15	7.5	200	6.9	6.97

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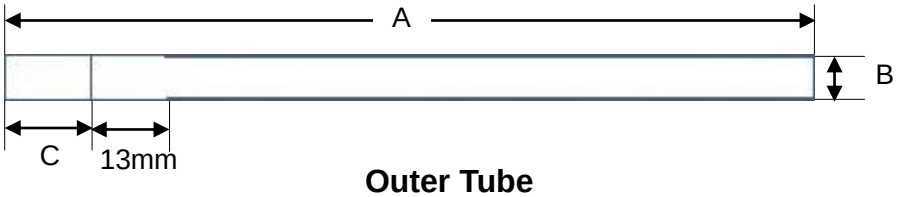
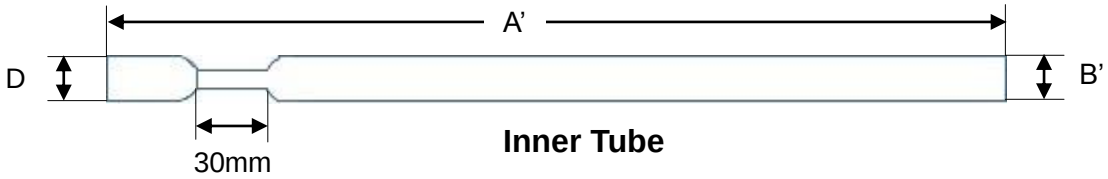
Thin wall Symmetrical MICRO NMR Tubes for $CDCl_3$



Outer Tube

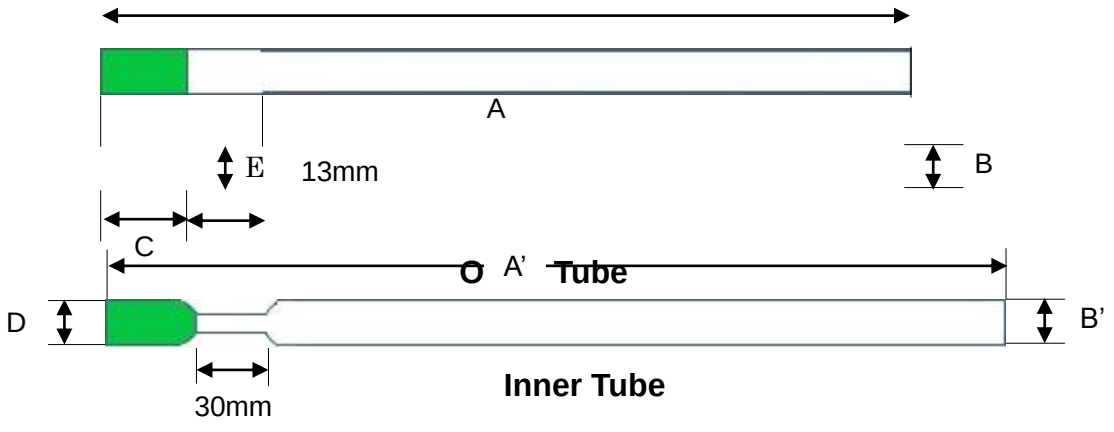


Inner Tube

Parts N.O.		Outer Tube(mm)				Inner Tube(mm)		
		Length A	O.D. B	Muched Glass C	Thin Wall I.D. E	Length A'	O.D. B'	Mached Glass O.D. D
5mmφ	CMS-005T(B)	180	4.965 +0.005 -0.010	8	4.52	190	4.1	4.17 +0 -0.01
	CMS-005T(J)	180	4.965 +0.005 -0.010	12	4.52	190	4.1	4.17 +0 -0.01
	CMS-005T(V)	180	4.965 +0.005 -0.010	15	4.52	190	4.1	4.17 +0 -0.01
8mmφ	CMS-008T(B)	190	7.98 ±0.01	10	7.5	200	6.9	6.97 +0 -0.01
	CMS-008T(V)	190	7.98 ±0.01	15	7.5	200	6.9	6.97 +0 -0.01

Part N.O. : The end character (J) is for JEOL , (B)is for Bruker , (V) is for Varian(Agilent)

Thin wall Symmetrical MICRO NMR Tubes for DMSO $(CD_3)_2SO$, Benzene C_6D_6 , Pyridine C_5D_5N



Inner Tube

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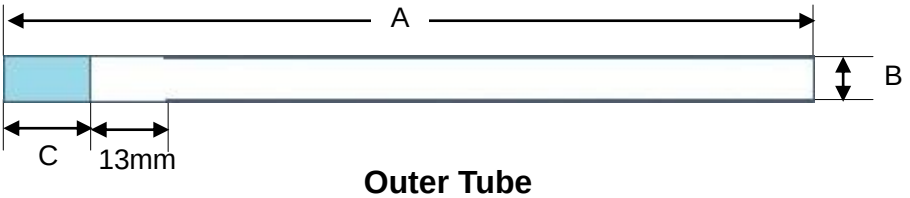
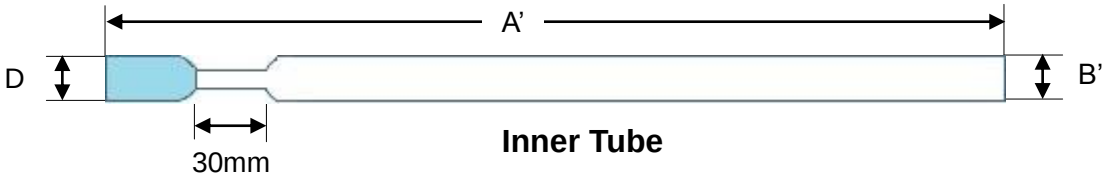
Parts N.O.		Outer Tube(mm)				Inner Tube(mm)		
		Length A	O.D. B	Muched Glass C	Thin Wall I.D. E	Length A'	O.D. B'	Mached Glass O.D. D
5mmφ	DMS-005T(B)	180	4.965 +0.005 -0.010	8	4.52	190	4.1	4.17 +0 -0.01
	DMS-005T(J)	180	4.965 +0.005 -0.010	12	4.52	190	4.1	4.17 +0 -0.01
	DMS-005T(V)	180	4.965 +0.005 -0.010	15	4.52	190	4.1	4.17 +0 -0.01
8mmφ	DMS-008T(B)	190	7.98 ±0.01	10	7.5	200	6.9	6.97 +0 -0.01
	DMS-008T(V)	190	7.98 ±0.01	15	7.5	200	6.9	6.97 +0 -0.01

Part N.O. : The end character (J) is for JEOL , (B)is for Bruker , (V) is for Varian(Agilent)

Thin wall Symmetrical MICRO NMR Tubes for Methanol CD_3OD, Acetonitrile CD_3CN



Outer Tube



Inner Tube

Parts N.O.		Outer Tube(mm)				Inner Tube(mm)		
		Length A	O.D. B	Muched Glass C	Thin Wall I.D. E	Length A'	O.D. B'	Mached Glass O.D. D
5mmφ	MMS-005T(B)	180	4.965 +0.005 -0.010	8	4.52	190	4.1	4.17 +0 -0.01
	MMS-005T(J)	180	4.965 +0.005 -0.010	12	4.52	190	4.1	4.17 +0 -0.01
	MMS-005T(V)	180	4.965 +0.005 -0.010	15	4.52	190	4.1	4.17 +0 -0.01

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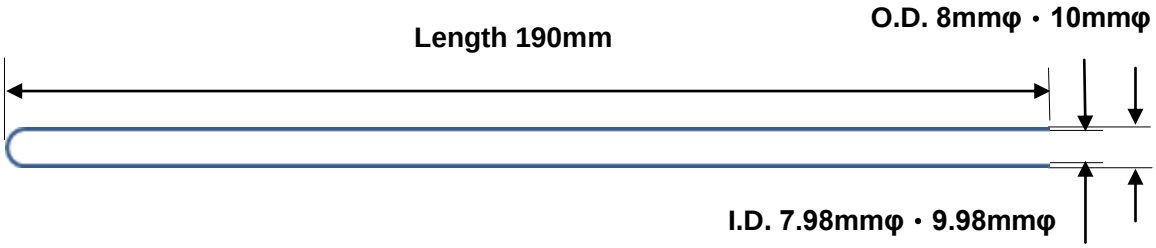
8mmφ	MMS-008T(B)	190	7.98 ±0.01	10	7.5	200	6.9	6.97 +0 -0.01
	MMS-008T(V)	190	7.98 ±0.01	15	7.5	200	6.9	6.97 +0 -0.01

Part N.O. : The end character (J) is for JEOL , (B)is for Bruker , (V) is for Varian(Agilent)

Precision Large Volume NMR Tubes



Parts N.O.	Dimension (mm)			Tolerance (μm)	
	Length	O.D.	I.D.	Straightness	Wall thickness control
P-8-001	190	7.98 ±0.01	7.03 +0.01 -0	10	15
P-8-002	190	7.98 ±0.01	7.03 +0.01 -0	10	20
P-8-003	190	7.98 ±0.01	7.03 +0.01 -0	20	30
P-8-004	190	7.98 ±0.01	7.03 +0.01 -0	20	40
P-10-001	190	9.98 ±0.01	9.03 +0.01 -0	10	15
P-10-002	190	9.98 ±0.01	9.03 +0.01 -0	10	20
P-10-003	190	9.98 ±0.01	9.03 +0.01 -0	20	30
P-10-004	190	9.98 ±0.01	9.03 +0.01 -0	20	40

If you need more volume, see “Ultra Thin wall (page 16)”

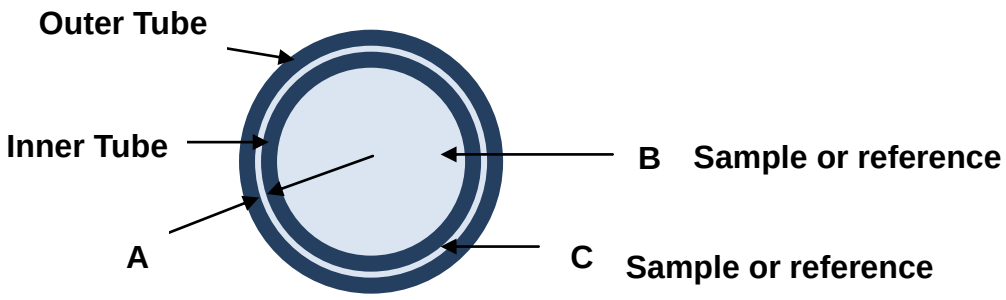
Volume comparison（30mm Height）

I.D(φ)	Ultra thin wall		Thin wall
5mm	518μL	25% gain	410μL
8mm	1,347μL	21% gain	1,118μL
10mm	2,109μL	15% gain	1,824μL

SHIGEMI® Precision Coaxial System

Coaxial cell for use in the external reference method has the following benefit.

- ★ External reference method of NMR analysis and internal reference method
- ★ It can be measured in a pure state without contaminating the sample by using a precision coaxial tube.
- ★ It does not show any interaction with the reference material and the sample by using an external reference method.
- ★ It is easy to cross-reference with the reference samples.
- ★ Convenient storage of special compounds, or high purity or expensive, valuable trace compounds will be able to re-test in the state that held the deterioration due to aging by the sealing in advance to an NMR tube.
- ★ Accurate measurement of the chemical shift



Parts N.O.	Gap Outer tube · Inner Tube (A)	Inner tube volume(sample hight 30mm) (B)	Gap volume(sample hight 30mm) (C)	Spacer
SC-001(4mm)	0.1mm	93μL	11μL	No
SC-002(5mm)	0.1mm	228μL	18μL	No
SC-003(8mm)	0.1mm	820μL	31μL	No
SC-004(10mm)	0.2mm	1,440μL	77μ L	No
SC-005(12mm)	0.1mm	2,224μL	44μL	No
SC-006(13mm)	0.1mm	2,672μL	51μL	No
SC-008(5mm)	0.91mm	145μL	155μL	Need
SC-009(5mm)	1.3mm	84μL	211μL	Need
SC-0010(5mm)	1.7mm	84μL	261μL	Need

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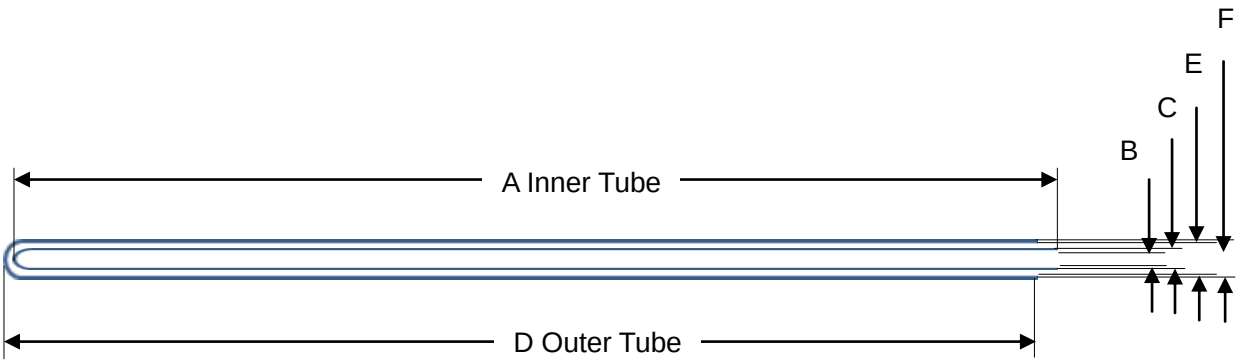
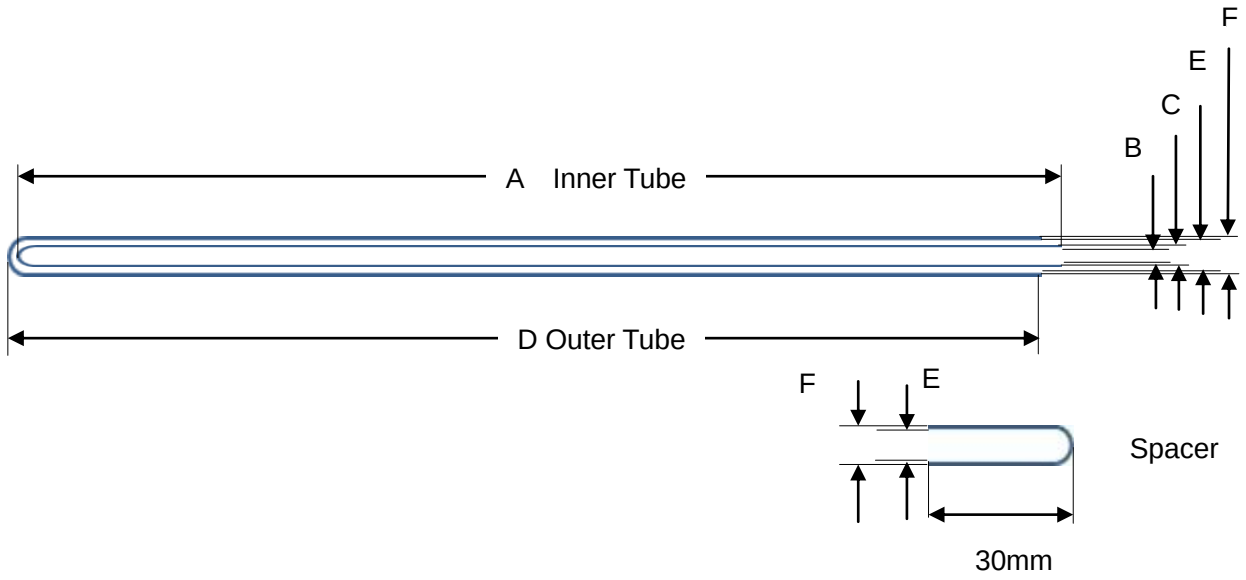
SHIGEMI® Precision Coaxial System



Parts N.O.	Outer Tube O.D	Inner Tube(mm)			Outer Tube(mm)			Price (NT$)		
		Length (A)	I.D. (B)	O.D. (C)	Length (D)	I.D. (E)	O.D. (F)	Inner Tube	Outer Tube	1 set
SC-001	4mm	183	2.0	3.1	180	3.2	3.98	1,250	1,250	2,500
SC-002	5mm	183	3.2	4.1	180	4.2	4.965	1,250	1,250	2,500
SC-003	8mm	183	6.0	6.9	180	7.0	7.99	1,500	1,500	3,000
SC-004	10mm	183	8.0	8.8	180	9.0	9.98	1,800	1,800	3,600
SC-005	12mm	183	10.0	10.9	180	11.0	11.98	2,500	2,500	5,000
SC-006	13mm	183	11.0	11.9	180	12.0	12.98	2,500	2,500	5,000
SC-007	15mm	183	12.0	13.49	180	13.5	14.98	2,500	2,500	5,000



Parts N.O.	Outer Tube O.D.	Inner Tube(mm)			Outer Tube(mm)			Spacer(mm)		Price / a piece (NT$)		
		Length (A)	I.D. (B)	O.D. (C)	Length (D)	I.D. (E)	O.D. (F)	I.D. (G)	O.D. (H)	Inner Tube	Outer Tube	Spacer
SC-008	5mm	190	2.5	3.29	180	4.2	4.965	3.3	4.19	1,250	1,250	300
SC-009	5mm	190	1.9	2.9	180	4.2	4.965	2.91	4.19	1,250	1,250	300
SC-0010	5mm	190	2.9	2.5	180	4.2	4.965	2.51	4.19	1,800	1,800	300

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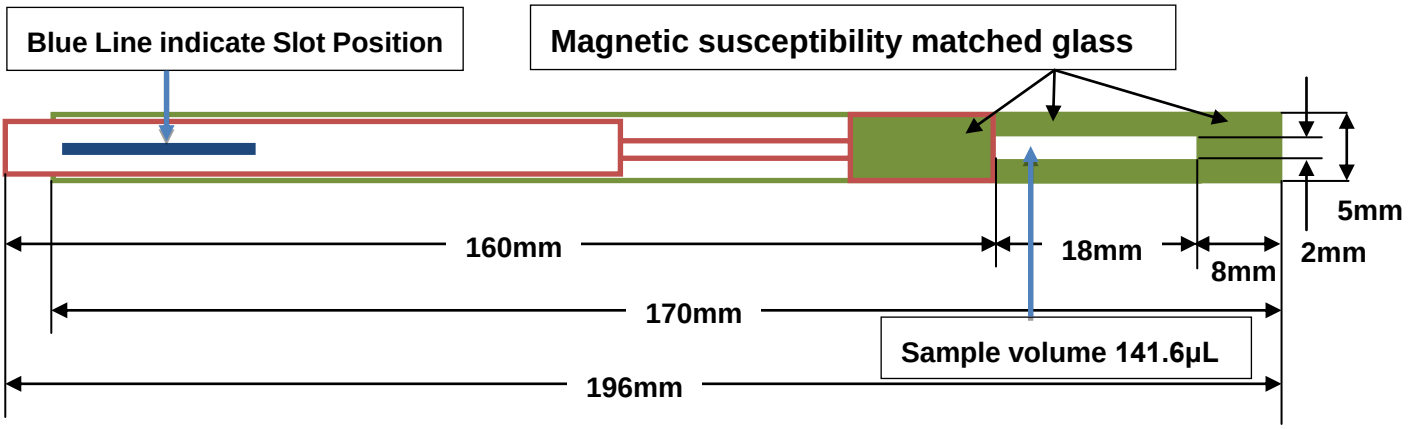
SLOT TUBE

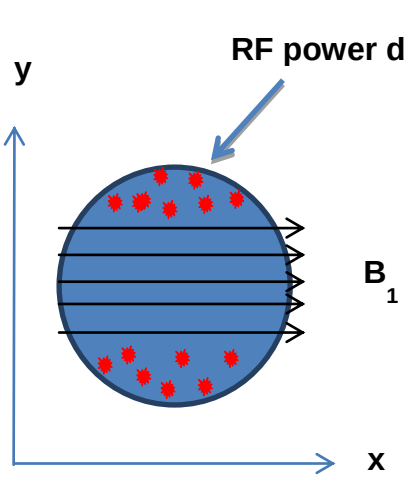
For High concentration electrolyte samples

The SHIGEMI Slot Tube provides the highest sensitivity and shortest 90 degree pulse width with any probes when working with lossy samples such as proteins in aqueous solutions containing high concentrations of electrolyte as salt.

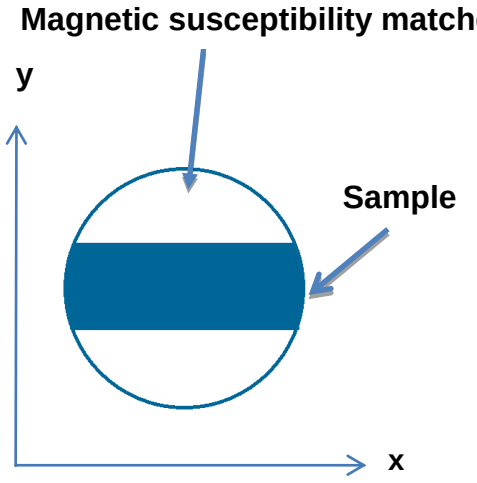
Benefit

- ★ **Avoid the hot spot of RF power dissipation.**
- ★ **Able to obtain the best S/N ratio than any other NMR sample tubes.**
- ★ **Provide the shortest 90 degree pulse width than any NMR sample tubes.**
- ★ **Has already been confirmed working well with a Cryo™probe (Bruker) 600, 950MHz and a Cold Probe(Varian/Agilent)600MHz.**





Cylindrical Tube



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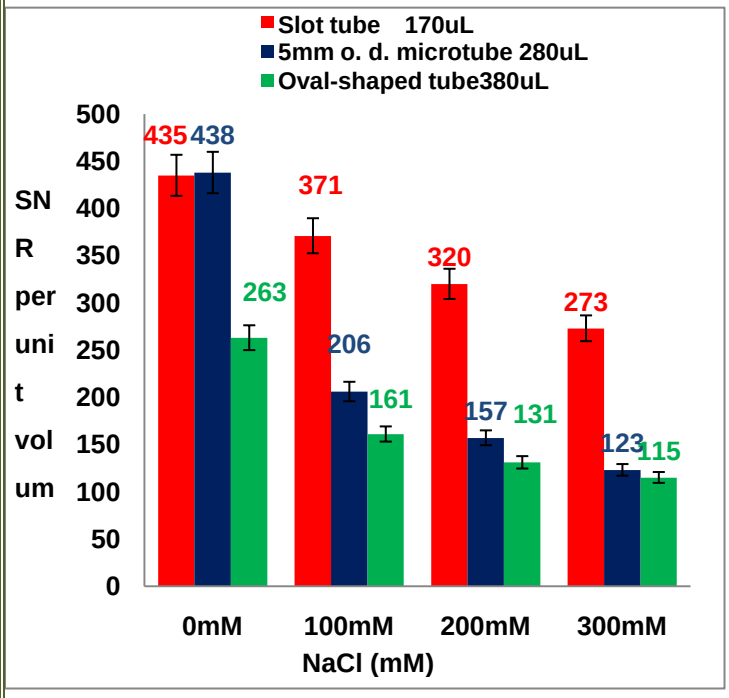
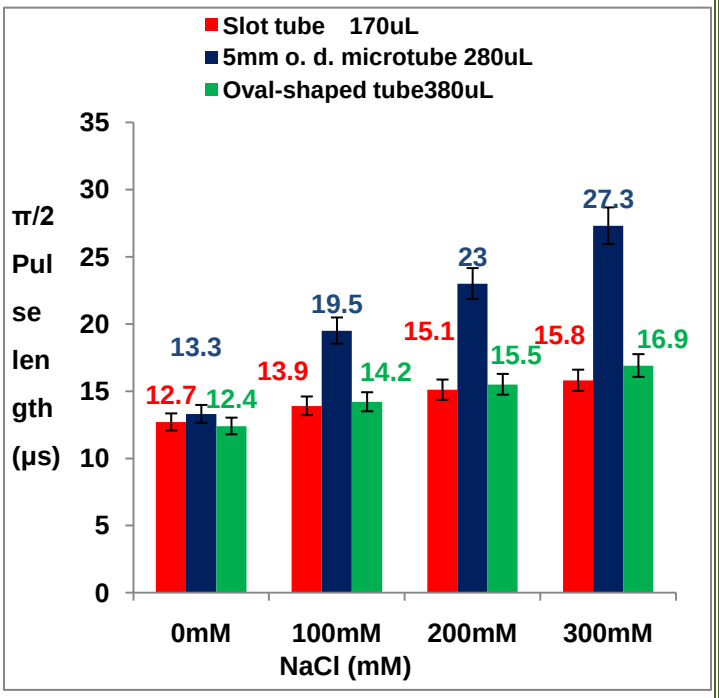


SNR per unit volume(ml) in different tubes And salt concentrations



π/2 Pulse length (μs) in different tubes and salt concentrations

Data acquired at 14.1T (600 MHz Cryo^{TM}Probe) for the ubiquitin samples of 0.3mM of [U-^{13}C/^{15}N] containing 10mM sodium phosphate

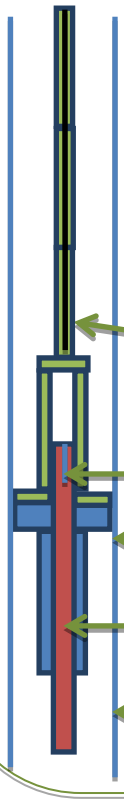
SLOT TUBE

Magnetic susceptibility matched glass

Slot for sample 144.6μL

SBMS 1 set NT$ 17,000

Positioning tool



If you do not have "Bruker Shaped Shigemi Tube Shuttle (5mm)" , you need this tool for fixing exact position. (shortest 90 degree puls width)

Do not use the air-lift function.

Black Line adjust with Blue Line

Blue Line

Spinner

SLOT TUBE

Upper Barrel

Positioning tool 1 set NT$ 66,000

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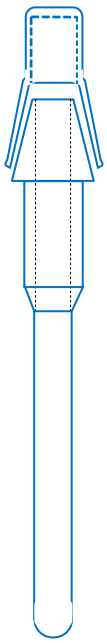
GAS TIGHT TUBE FOR NMR・ESR

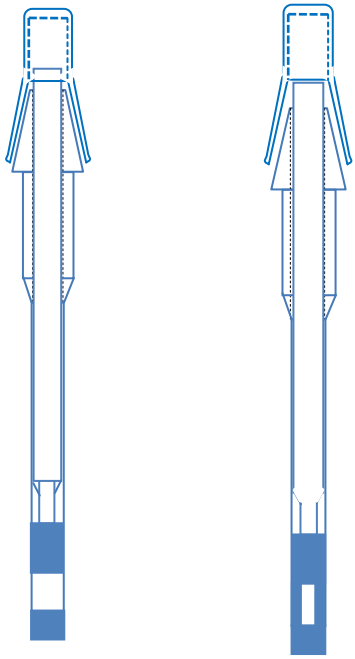
There are several types of gas tight tubes in a NMR tubes market.
All most gas tight tubes complicated structure.

Benefit

1. To keep long term vacuum.
2. No need HEAT SEALING.
3. Standard Taper



1. To keep long term vacuum.
2. No need HEAT SEALING.
3. No need grease for sealing.
4. No grained on joint parts



品　名	型　式			單 位	定　價
5mm NMR Gas tight tube	PS-003GT			1 pcs	NT$3,500
Symmetrical MICRO NMR Gas tight Tube for D_2O	BMS-005BGT	BMS-005JGT	BMS-005VGT	1 set	NT$7,500
Symmetrical MICRO NMR Gas tight Tube for $CDCl_3$	CMS-005BGT	CMS-005JGT	CMS-005VGT	1 set	NT$7,500
ガスタイト 5mm **DMSO ($(CD_3)_2SO$), (C_6D_6),(C_5D_5N)** 用,対称形	DMS-005BGT	DMS-005JGT	DMS-005VGT	1 set	NT$8,500
ガスタイト 5mm **(CD_3OD), (CD_3CN)** 用 ， 対称形	MMS-005BGT	MMS-005JGT	MMS-005VGT	1 set	NT$8,500
SLOT TUBE Gastight	SBMSGT			1 set	NT$17,000
ガスタイト特殊 NMR サンプルチューブ（石英製）	SS-002GT			1 pcs	NT$5,500

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