

Vol. EN07

Price revision  
Valid from January 1st 2024

**SHIGEMI**®

**NMR/EPR Tubes  
&  
Accessories**

 **BK Instruments Inc.**

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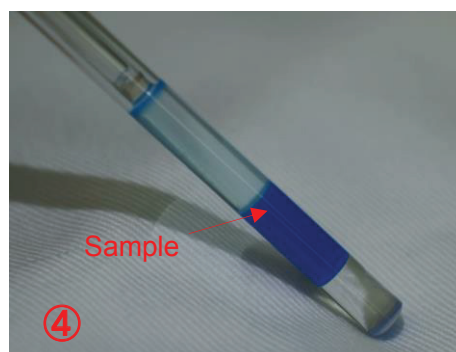
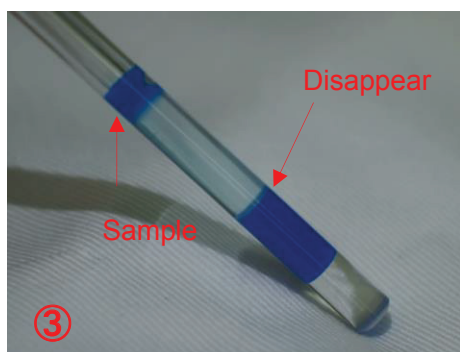
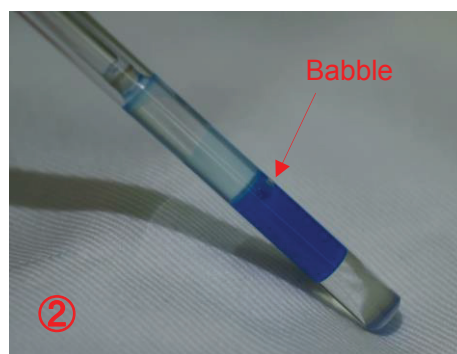
# Symmetrical MICRO NMR Tubes

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: CDCL<sub>3</sub>, CD<sub>3</sub>OD, D<sub>2</sub>O, DMSO

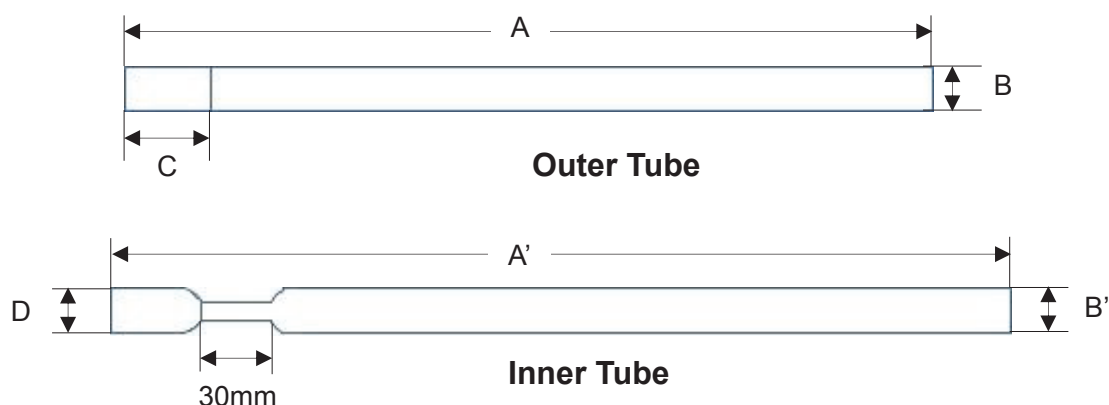
Therefore, the best resolution of a sample can be obtained in each of these solutions with minimal amounts of sample. Yet, the use of a small amount of solution will not affect the spectral resolution or the sideband.

## How to use Symmetrical MICRO NMR Tubes

- ★ Do not spinning
- ★ We do not garanty auto shimming  
Plaese make shim file from 0
- ★ Plaese take out bables
  - ① You turn in an inner tubeslowly
  - ② Brief stop when a inner tube tach at sample surface.
  - ③ You push quick a inner tube
  - ④ Bables was disapred return an inner tube right position

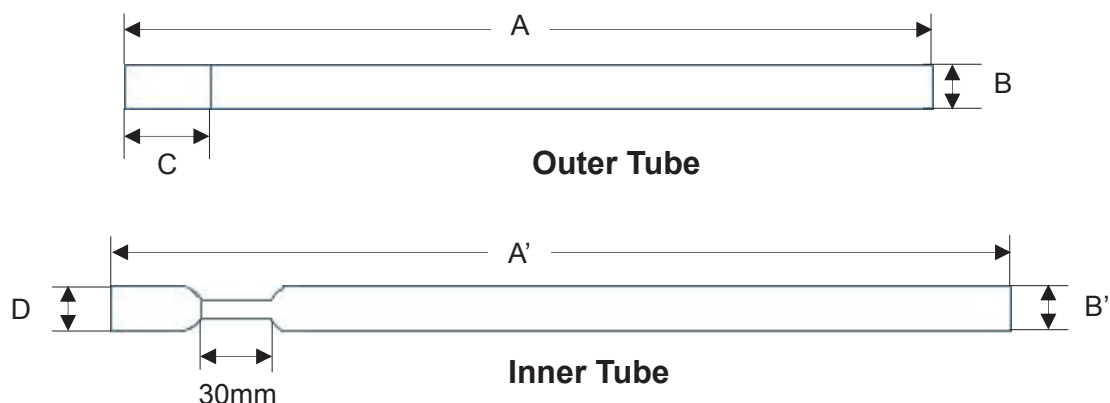


# Symmetrical MICRO NMR Tubes for D<sub>2</sub>O



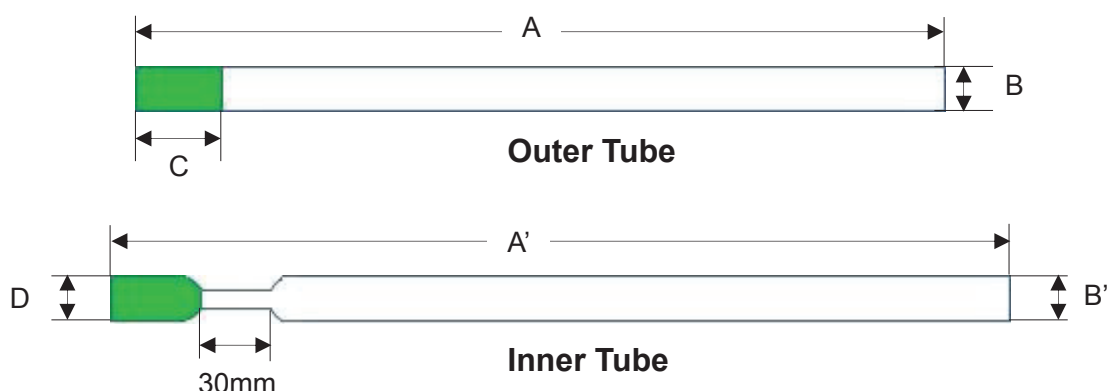
Parts N.O.		Outer Tube(mm)			Inner Tube(mm)		
		Length A	O.D B	Muched Glass C	Length A'	O.D. B'	Muched glass D
2.5mmφ	BMS-0025	120	2.5 +0 -0.01	6	115	1.8	1.86 +0 -0.01
3mmφ	BMS-003	180	3.00 -0.01 -0.02	10	190	2.4	2.47 +0 -0.01
4mmφ	BMS-004B	180	4.000 +0.005 -0.010	8	190	3.1	3.16 +0 -0.01
	BMS-004J	180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

# Symmetrical MICRO NMR Tubes for CDCl<sub>3</sub>



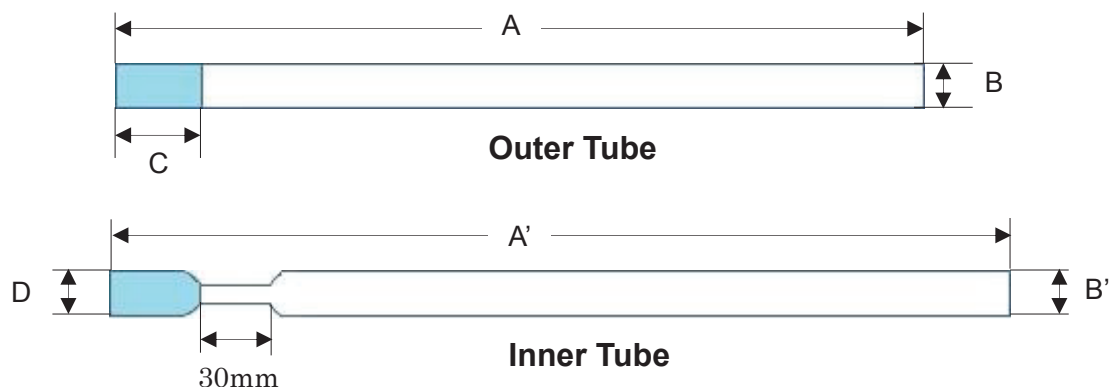
Parts N.O.	Outer Tube(mm)			Inner Tube(mm)		
	Length A	O.D. B	Muched glass C	Length A'	O.D. B'	Muched glass D
2.5mmφ CMS-0025	120	2.5 +0 -0.01	6	115	1.8	1.86 +0 -0.01
3mmφ CMS-003	180	3.00 -0.01 -0.02	10	190	2.4	2.47 +0 -0.01
5mmφ	CMS-005B	4.965 +0.005 -0.010	8	190	4.1	4.17 +0 -0.01
	CMS-005J	4.965 +0.005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

# Symmetrical MICRO NMR Tubes for DMSO (CD<sub>3</sub>)<sub>2</sub>SO, C<sub>6</sub>D<sub>6</sub>, C<sub>5</sub>D<sub>5</sub>N



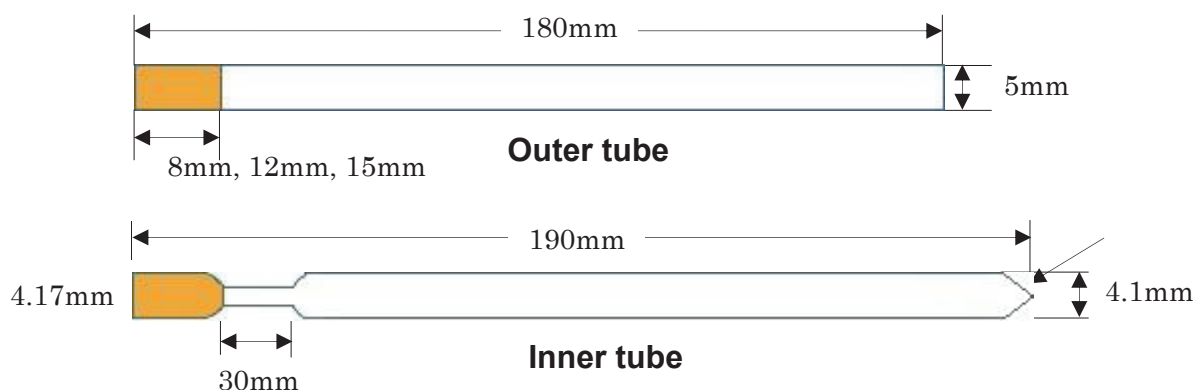
Parts N.O.	Outer Tube(mm)			Inner Tube(mm)			
	Length A	O.D B	Mached glass C	Length A'	O.D. B'	Mached glass D	
2.5mmφ	DMS-0025	120	2.5 +0 -0.01	6	115	1.8	1.86 +0 -0.01
3mmφ	DMS-003	180	3.00 -0.01 -0.02	10	190	2.4	2.47 +0 -0.01
5mmφ	DMS-005B	180	4.965 +0.005 -0.010	8	190	4.1	4.17 +0 -0.01
	DMS-005J	180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

# Symmetrical MICRO NMR Tubes for CD<sub>3</sub>OD, CD<sub>3</sub>CN



Parts N.O.	Outer Tube(mm)			Inner Tube(mm)			
	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	
3mmφ MMS-003	180	3.00 -0.01 -0.02	10	190	2.4	2.47 +0 -0.01	
5mmφ	MMS-005B	180	4.965 +0.005 -0.010	8	190	4.1	4.17 +0 -0.01
	MMS-005J	180	4.965 +0.005 -0.010	12	190	4.1	4.17 +0 -0.01
	MMS-005V	180	4.965 +0.005 -0.010	15	190	4.1	4.17 +0 -0.01
8mmφ	MMS-008BJ	190	7.98 ±0.01	10	200	6.9	6.97 +0 -0.01
	MMS-008V	190	7.98 ±0.01	15	200	6.9	6.97 +0 -0.01
10mmφ	MMS-010BJ	190	9.98 +0 -0.01	10	200	8.9	8.97 +0 -0.01
	MMS-010V	190	8.98 ±0.01	15	200	8.9	8.97 +0 -0.01

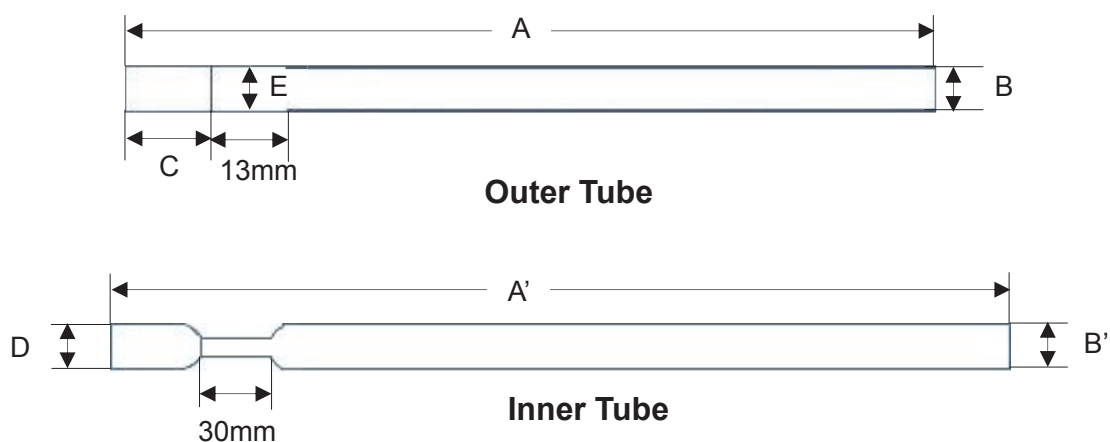
# Symmetrical MICRO NMR Tubes for Acetone-d<sub>6</sub>



Parts N.O.	Outer Tube(mm)			Inner Tube(mm)		
	Length A	O.D. B	Mached glass C	Length A'	O.D. B'	Mached glass D
2.5mmφ	AMS-0025	120	2.5 +0 -0.01	6	115	1.8 +0 -0.01
3mmφ	AMS-003	180	3.00 -0.01 -0.02	10	190	2.47 +0 -0.01
5mmφ	AMS-005B	180	4.965 +0.005 -0.010	8	190	4.17 +0 -0.01
	AMS-005J	180	4.965 +0.005 -0.010	12	190	4.17 +0 -0.01
	AMS-005V	180	4.965 +0.005 -0.010	15	190	4.17 +0 -0.01

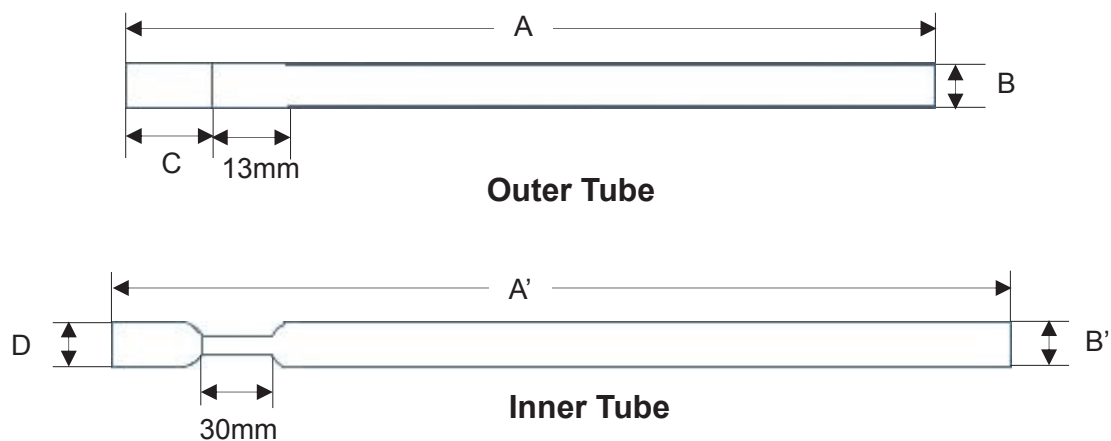


# Thin wall Symmetrical MICRO NMR Tubes for D<sub>2</sub>O



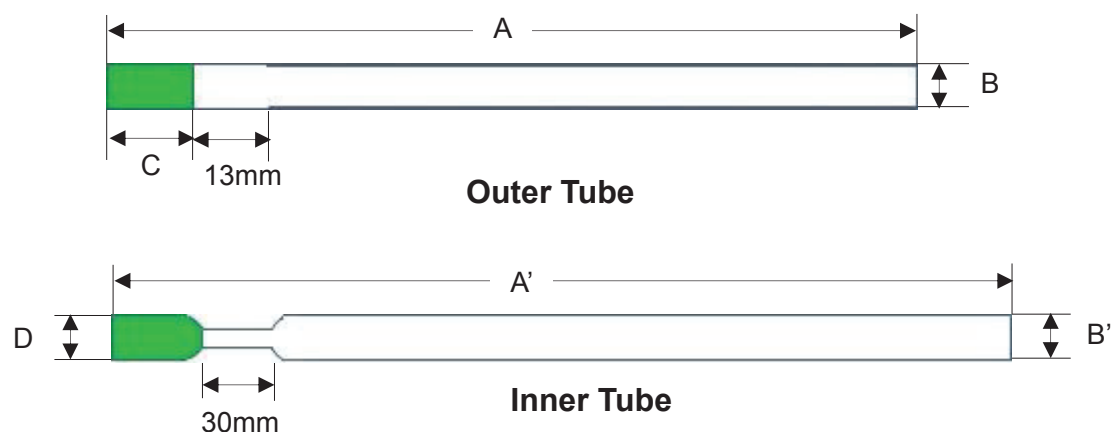
Parts N.O.		Outer Tube(mm)				Inner Tube(mm)		
		Length A	O.D. B	Muched Glass C	Thin Wall I.D. E	Length A'	O.D. B'	Mached Glass O.D. D
5mm $\phi$	BMS-005TB	180	4.965 +0.005 -0.010	8	4.52	190	4.1	4.17 +0 -0.01
	BMS-005TJ	180	4.965 +0.005 -0.010	12	4.52	190	4.1	4.17 +0 -0.01
	BMS-005TV	180	4.965 +0.005 -0.010	15	4.52	190	4.1	4.17 +0 -0.01

# Thin wall Symmetrical MICRO NMR Tubes for $\text{CDCl}_3$



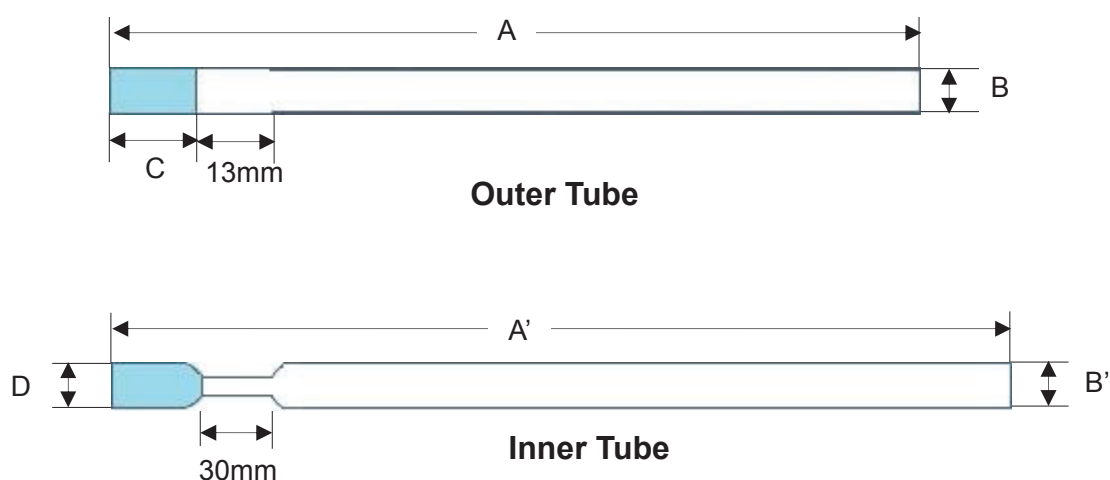
Parts N.O.		Outer Tube(mm)				Inner Tube(mm)		
		Length A	O.D. B	Mached Glass C	Thin Wall I.D. E	Length A'	O.D. B'	Mached Glass O.D. D
5mm $\phi$	CMS-005TB	180	4.965 +0.005 -0.010	8	4.52	190	4.1	4.17 +0 -0.01
	CMS-005TJ	180	4.965 +0.005 -0.010	12	4.52	190	4.1	4.17 +0 -0.01
	CMS-005TV	180	4.965 +0.005 -0.010	15	4.52	190	4.1	4.17 +0 -0.01

# Thin wall Symmetrical MICRO NMR Tubes for DMSO (CD<sub>3</sub>)<sub>2</sub>SO , Benzene C<sub>6</sub>D<sub>6</sub> , Pyridine C<sub>5</sub>D<sub>5</sub>N



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-005TB	180	4.965 +0.005 -0.010	8	4.52	190	4.1	4.17 +0 -0.01
	DMS-005TJ	180	4.965 +0.005 -0.010	12	4.52	190	4.1	4.17 +0 -0.01
	DMS-005TV	180	4.965 +0.005 -0.010	15	4.52	190	4.1	4.17 +0 -0.01

# Thin wall Symmetrical MICRO NMR Tubes for Methanol CD<sub>3</sub>OD, Acetonitrile CD<sub>3</sub>CN



Parts N.O.		Outer Tube(mm)				Inner Tube(mm)		
		Length A	O.D. B	Mached Glass C	Thin Wall I.D. E	Length A'	O.D. B'	Mached Glass O.D. D
5mmφ	MMS-005TB	180	4.965 +0.005 -0.010	8	4.52	190	4.1	4.17 +0 -0.01
	MMS-005TJ	180	4.965 +0.005 -0.010	12	4.52	190	4.1	4.17 +0 -0.01
	MMS-005TV	180	4.965 +0.005 -0.010	15	4.52	190	4.1	4.17 +0 -0.01

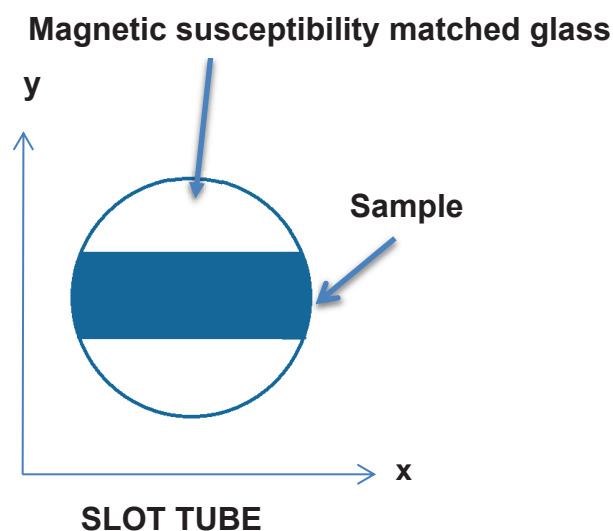
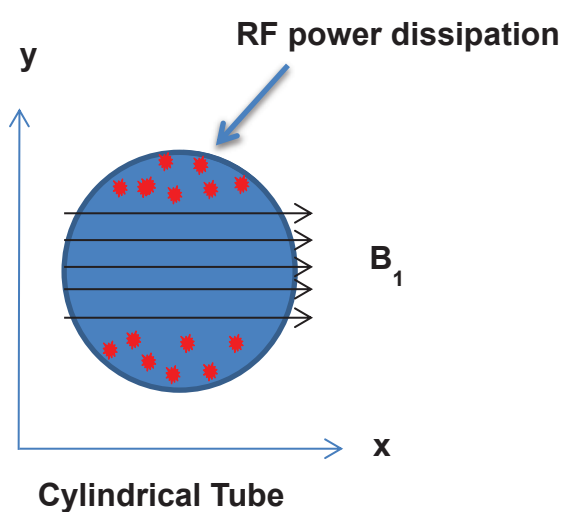
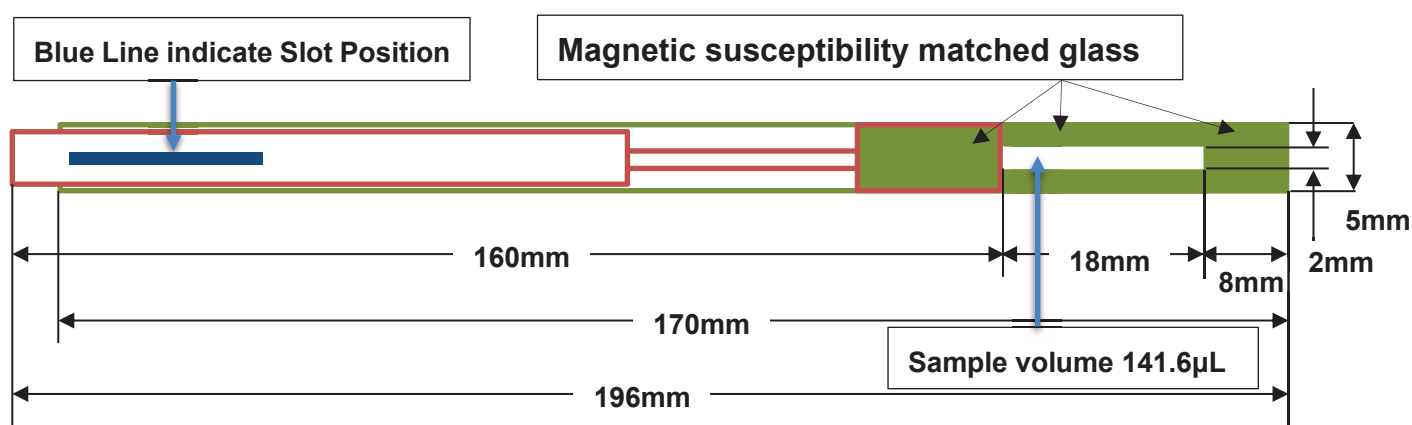
# SLOT TUBE

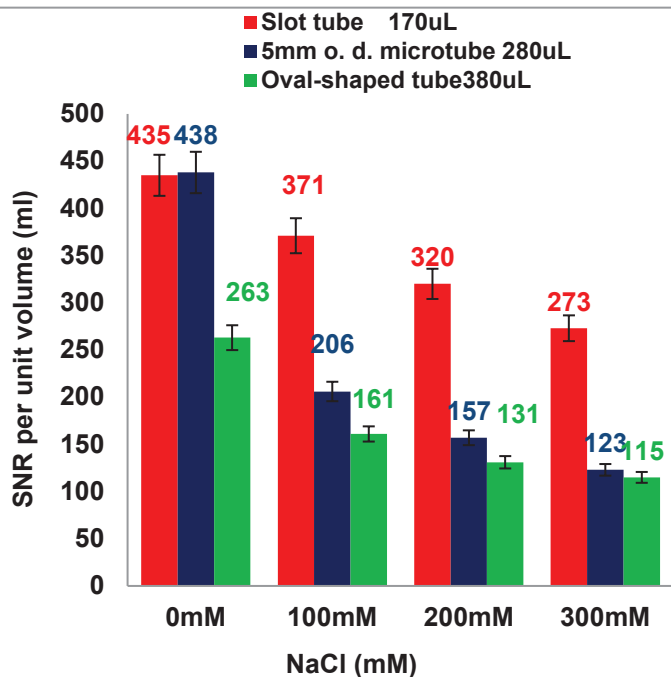
## For High concentration electrolyte samples

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.

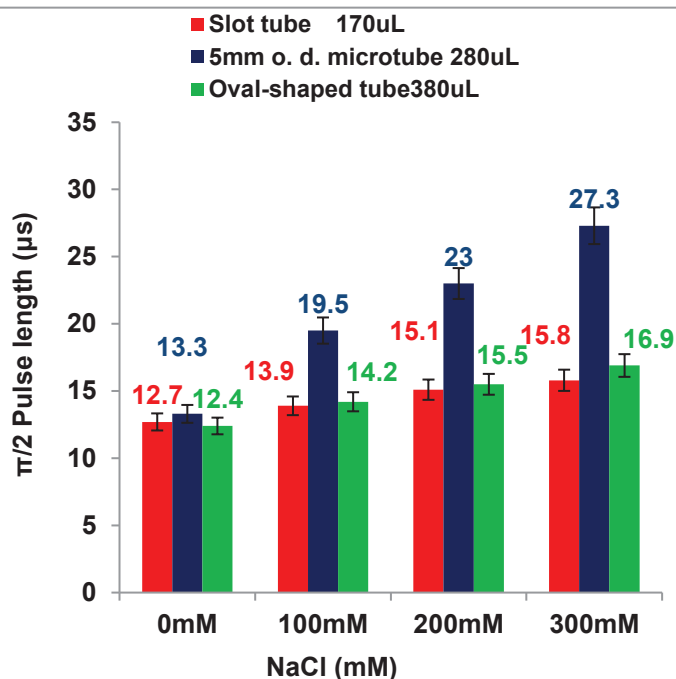
### Benefit

- ★ 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.





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



$\pi/2$  Pulse length ( $\mu$ s) in different tubes  
and salt concentrations

Data acquired at 14.1T (600 MHz Cryo<sup>TM</sup>Probe) for the ubiquitin samples of 0.3mM of [<sup>13</sup>C/<sup>15</sup>N] containing 10mM sodium phosphate

### SLOT TUBE

Magnetic susceptibility matched glass



Slot for sample  
144.6 $\mu$ L

SBMS 1 set

### 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)

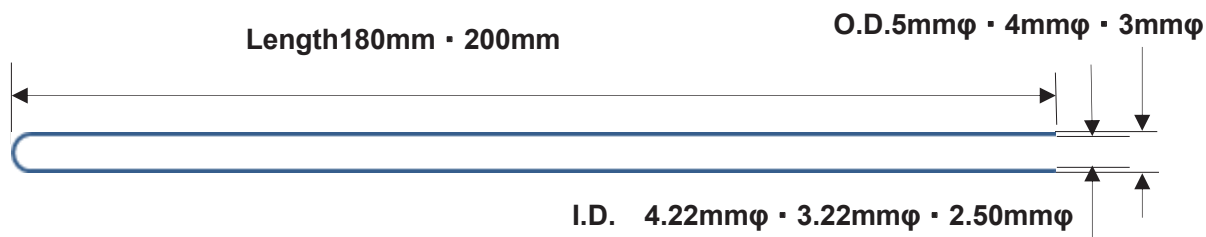
**Do not use the air-lift function.**



Black Line adjust with Blue Line  
Blue Line  
Spinner  
SLOT TUBE  
Upper Barrel

Positioning tool 1 set

# Ultra Precision NMR Sample Tubes



## 5mmφ Ultra Precision NMR Sample Tubes **Thin wall**

DURAN®

Parts N.O.	Dimension (mm)			Tolerance (μm)	
	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
PS-001-8	200	4.965 +0.005 -0.010	4.220 +0.01 -0	10	5
PS-002-7	180	4.965 +0.005 -0.010	4.220 +0.01 -0	15	10
PS-002-8	200	4.965 +0.005 -0.010	4.220 +0.01 -0	15	10
PS-003-7	180	4.965 +0.005 -0.010	4.220 +0.01 -0	15	20
PS-003-8	200	4.965 +0.005 -0.010	4.220 +0.01 -0	15	20
PS-004-7	180	4.965 +0.005 -0.010	4.220 +0.01 -0	20	25
PS-004-8	200	4.965 +0.005 -0.010	4.220 +0.01 -0	20	25

## 4mmφ Ultra Precision NMR Sample Tubes **Thin wall**

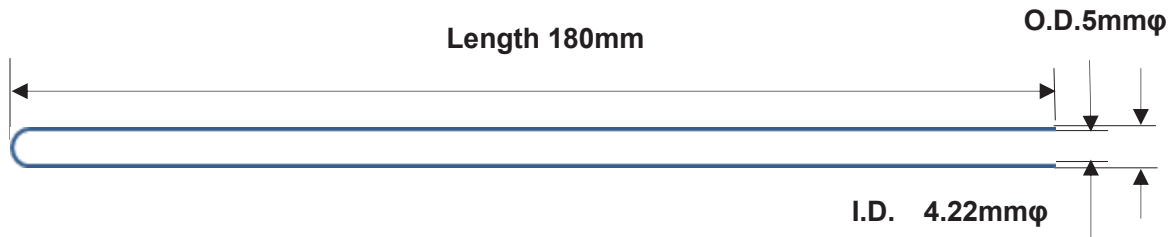
Parts N.O.	Dimension (mm)			Tolerance (μm)	
	Length	O.D.	I.D.	Straightness	wall thickness control
PR-001	180	4 +0 -0.01	3.22 +0.010 -0	15	10
PR-002	180	4 +0 -0.01	3.22 +0.010 -0	20	20

## 3mmφ Ultra Precision NMR Sample Tubes **Thin wall**

Parts N.O.	Dimension (mm)			Tolerance (μm)	
	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
PN-002	180	3.0 +0.01 -0.02	2.5 +0.01 -0	25	20

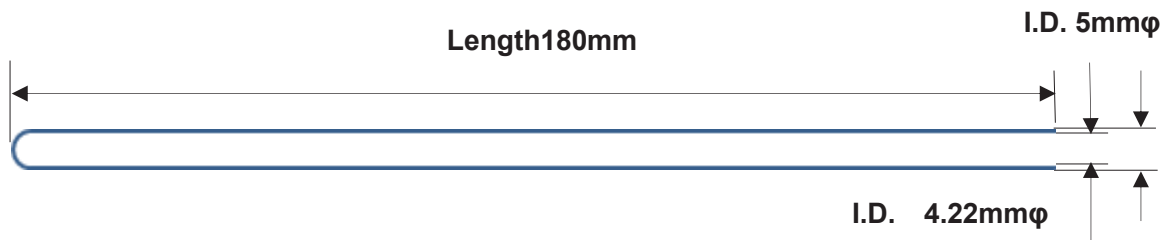
# Economy NMR Sample Tubes

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



## 5mm Economy NMR Sample Tubes **Thin Wall** DURAN®

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 peace



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

★You can use V.T. examination

★We can sale 200peaces only

DURAN®

## 5mm Disposable NMR Sample Tubes **Thin Wall**

Parts N.O.	Dimension (mm)			Straightness(µm)
	Length	O.D.	I.D.	
EC-57	180	4.965 +0.005 -0.010	4.220 ±0.10	30
EC-58	200	4.965 +0.005 -0.010	4.220 ±0.10	30



# 5mm $\phi$ Micro Bottom Tubes

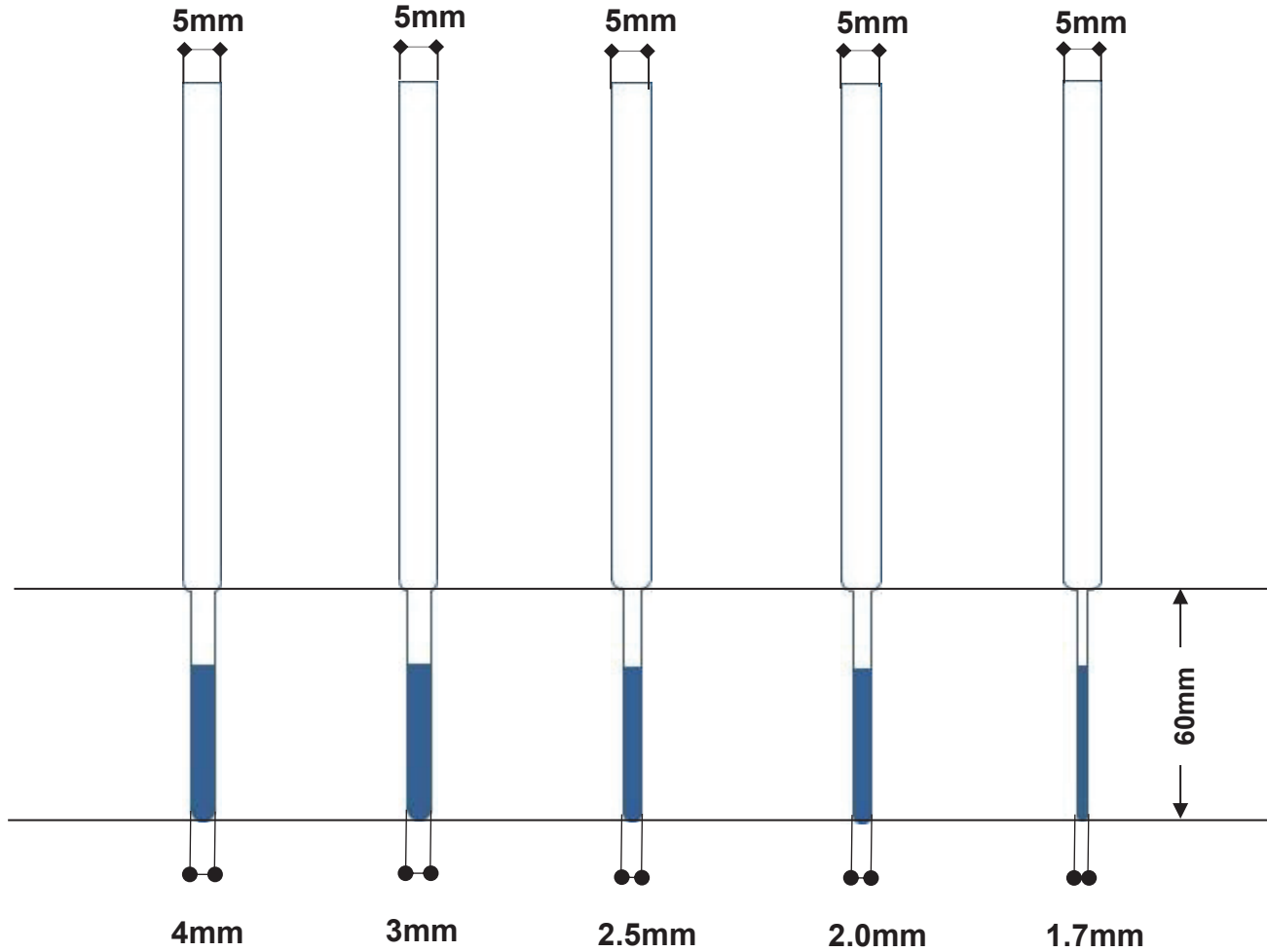
## Benefit

- ★ 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

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

★ You can use V.T. examination

# 5mm $\phi$ Micro Bottom Tubes



## Volume comparison

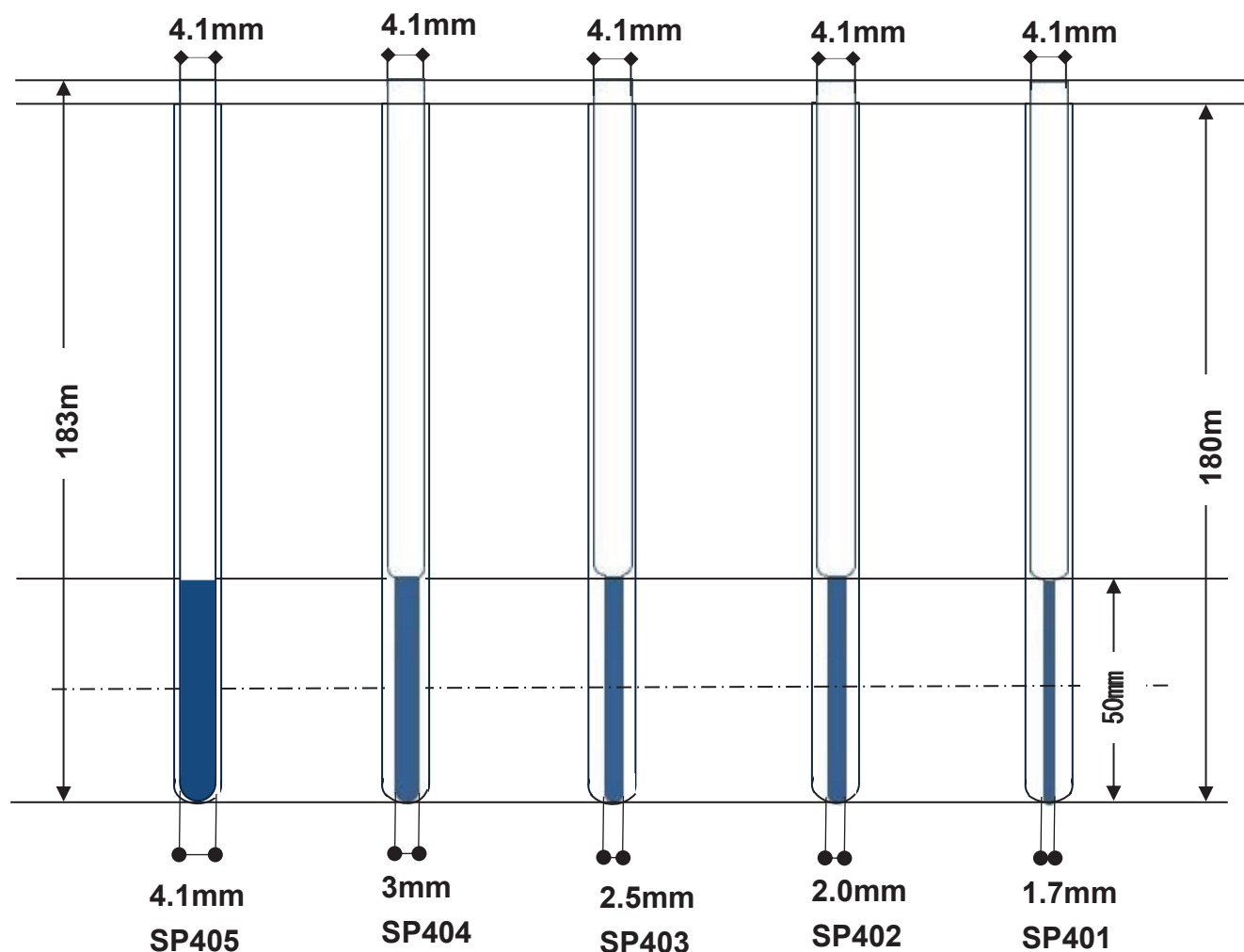
Sample height	4mm (SP-505)	3mm (SP-504)	2.5mm (SP-503)	2.0mm (SP-502)	1.7mm (SP-501)	5mm Thin wall
30mm	240uL	145 uL	84 uL	53 uL	34 uL	410uL
40mm	321 uL	194 uL	113 uL	70 uL	45 uL	549uL

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 $\pm$ 0.01mm
SP-502	180mm	5mm	60mm	2mm	1.5mm $\pm$ 0.01mm
SP-503	180mm	5mm	60mm	2.5mm	1.9mm $\pm$ 0.01mm
SP-504	180mm	5mm	60mm	3mm	2.5mm $\pm$ 0.01mm
SP-505	180mm	5mm	60mm	4mm	3.2mm $\pm$ 0.01mm

# 5mm $\phi$ Coaxial N M R tube set

When you do not want to mix sample with solvent or to compare with the standard sample  
We strong recommend the items.

We sale an outer tube(5mmO.D.), an inner tube with cap.



P.N.	Inner Tube Stem O.D.	Inner Tube Volume 40mm high	Outer Tube volume (When setting with an inner tube and an outer tube) 40mm
SP-401	1.7mm	45uL	459uL
SP-402	2mm	70uL	425uL
SP-403	2.5mm	113uL	355uL
SP-404	3mm	194uL	270uL
SP-405	4.1mm	317uL	55uL
SPT-401	1.7mm	45uL	547uL
SPT-402	2mm	70uL	512uL
SPT-403	2.5mm	113uL	442uL
SPT-404	3mm	194uL	257uL
SPT-405	4.1mm	317uL	142uL

# 5mm $\phi$ Coaxial N M R tube set

With PS-001-7(Thin wall Outer Tube O.D. 5mm)

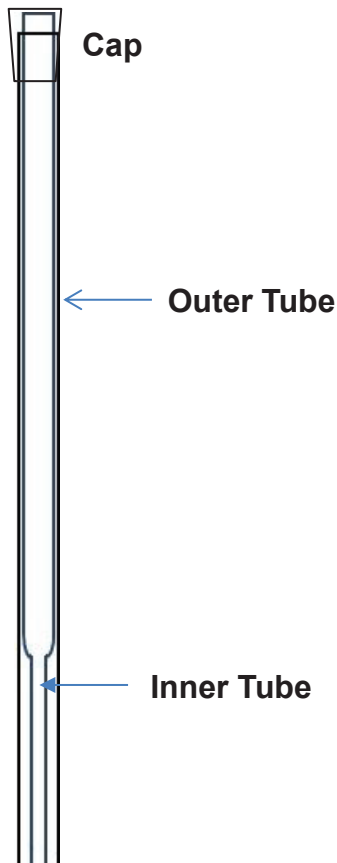
## Inner tube detail

P.N.	Length	O.D. Inner tube	Stem Length	Stem O.D	Stem I.D.	tolerance
SP-401	183mm	4.1mm	50mm	1.7mm	1.2mm	$\pm 0.01$ mm
SP-402	183mm	4.1mm	50mm	2mm	1.5mm	$\pm 0.01$ mm
SP-403	183mm	4.1mm	50mm	2.5mm	1.9mm	$\pm 0.01$ mm
SP-404	183mm	4.1mm	50mm	3mm	2.5mm	$\pm 0.01$ mm
SP-405	183mm	4.1mm	50mm	4.1mm	3.2mm	$\pm 0.01$ mm

With PST-001-7(Ultra thin wall Outer Tube O.D. 5mm)

## Inner tube detail

P.N.	Length	O.D.	Stem Length	Stem O.D	Stem I.D.	tolerance
SPT-401	183mm	4.1mm	50mm	1.7mm	1.2mm	$\pm 0.01$ mm
SPT-402	183mm	4.1mm	50mm	2mm	1.5mm	$\pm 0.01$ mm
SPT-403	183mm	4.1mm	50mm	2.5mm	1.9mm	$\pm 0.01$ mm
SPT-404	183mm	4.1mm	50mm	3mm	2.5mm	$\pm 0.01$ mm
SPT-405	183mm	4.1mm	50mm	4.1mm	3.2mm	$\pm 0.01$ mm



### SPARE PARTS

SP-401 INNER TUBE

SP-402 INNER TUBE

SP-403 INNER TUBE

SP-404 INNER TUBE

SP-405 INNER TUBE

PS-001 OUTER TUBE

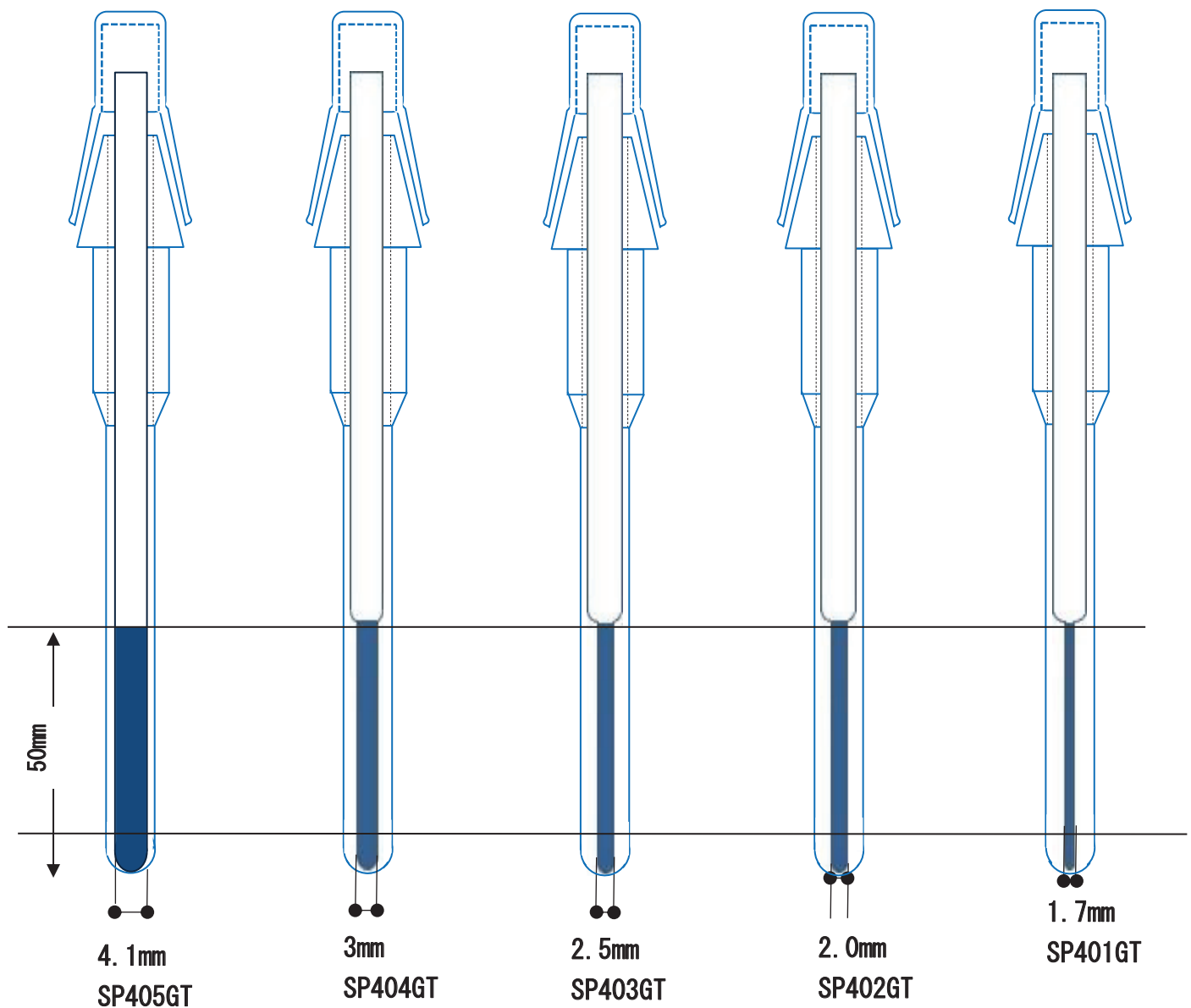
PST-001 OUTER TUBE

CT-005(CAP)

We cannot guarantee for combinations with outer or inner tubes from other manufacturers.

# 5mm $\phi$ Coaxial GAS tight NMR tube set

A coaxial tube that can block outside air. It is effective for samples that are sensitive to vacuum, nitrogen substitution, evaporation, water absorption, etc. Apply vacuum grease to the edge of the lid before use. Be careful not to let grease get into the sample tube. It can withstand long-term sealing.



**With PS-001-7GT(Thin wall GAS tight Outer Tube O.D. 5mm)**

**Inner tube detail**

P.N.	O.D. Inner tube	Stem Length	Stem O.D	Stem I.D.	tolerance
SP-401GT	4.1mm	50mm	1.7mm	1.2mm	±0.01mm
SP-402GT	4.1mm	50mm	2mm	1.5mm	±0.01mm
SP-403GT	4.1mm	50mm	2.5mm	1.9mm	±0.01mm
SP-404GT	4.1mm	50mm	3mm	2.5mm	±0.01mm
SP-405GT	4.1mm	50mm	4.1mm	3.2mm	±0.01mm

**With PST-001-7GT(Ultra Thin wall GAS tight Outer Tube O.D. 5mm)**

**Inner tube detail**

P.N.	O.D. Inner tube	Stem Length	Stem O.D	Stem I.D.	tolerance
SPT-401GT	4.1mm	50mm	1.7mm	1.2mm	±0.01mm
SPT-402GT	4.1mm	50mm	2mm	1.5mm	±0.01mm
SPT-403GT	4.1mm	50mm	2.5mm	1.9mm	±0.01mm
SPT-404GT	4.1mm	50mm	3mm	2.5mm	±0.01mm
SPT-405GT	4.1mm	50mm	4.1mm	3.2mm	±0.01mm

**SPARE PARTS**

**SP-401INNER TUBE**

**SP-402INNER TUBE**

**SP-403INNER TUBE**

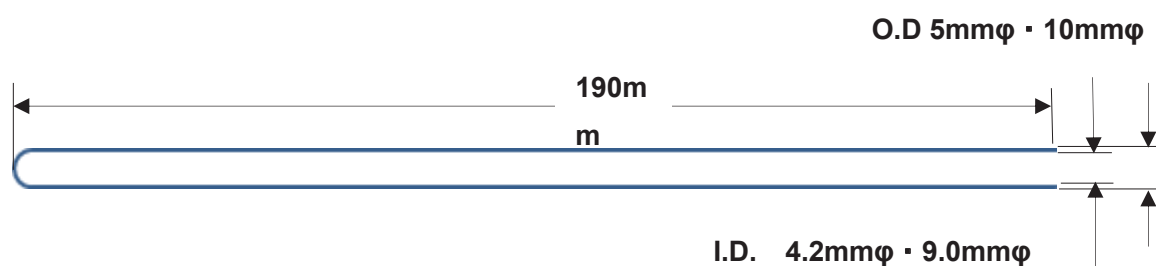
**SP-404INNER TUBE**

**SP-405INNER TUBE**

**PS-001GT GAS Tight OUTER TUBE**

**PST-001GT GAS Tight OUTER TUBE**

# Quartz NMR Tubes



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

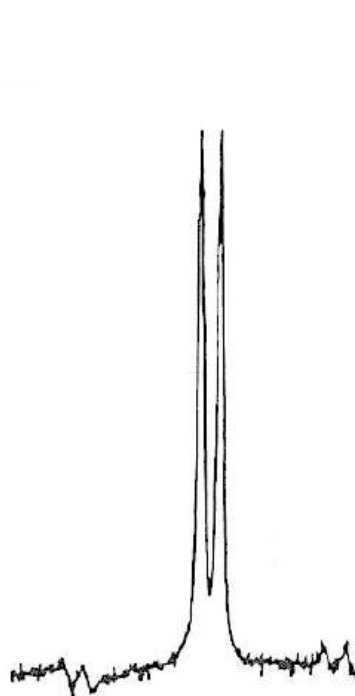
Fused Silica	Metallic impurity (ppm)										OH radical
	Na	K	Li	Mg	Mn	Fe	Ca	Al	Tl	Zr	
	1.3	<3.0	1.0	0.5	0.1	1.9	1.8	20.3	1.4	2.4	<5

# Ultra thin wall NMR Tubes

## Benefit

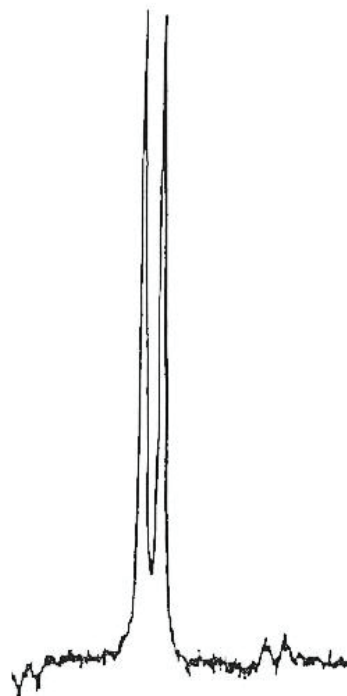
- ★ Tube thickness effect Signal to Noise
- ★ Volume gain
- ★ Sample approach RF coil
- ★ Better resolution of NMR spectra (especially Ultra High Field Magnet)
- ★ Easy to use

★ **25% gain Signal to Noise**



Ultra Precision NMR Sample Tubes

Figure 1



Thin wall NMR Tubes

Figure 2

**<sup>1</sup>H NMR Data 1 scan 20mM Sucrose in D<sub>2</sub>O 298°K Bruker 600MHz**

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



# Ultra Thin wall NMR Tubes

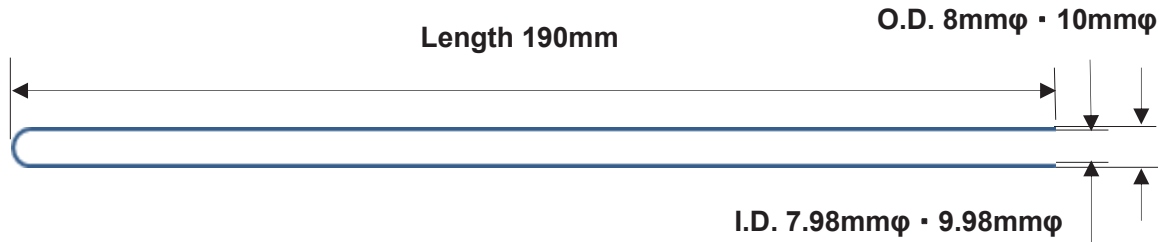


Parts N.O.	Dimension (mm)				Tolerance ( $\mu\text{m}$ )	
	Length(A)	O.D.(B)	Wall Thickness(C)	Length of thin wall(D)	Wall thickness control	Straightness
PST-001	180	4.965 +0.005 -0.010	0.21	50	10	10
PST-002	180	4.965 +0.005 -0.010	0.21	50	20	25
ST8-001	190	7.98 $\pm 0.01$	0.25	50	10	10
ST8-002	190	7.98 $\pm 0.01$	0.25	50	20	20
ST10-001	190	9.98 $\pm 0.01$	0.25	50	10	10
ST10-002	190	9.98 $\pm 0.01$	0.25	50	20	20

## Volume comparison (40mm Height)

I.D( $\phi$ )	Thin wall	Ultra Thin Wall
5mm	550 $\mu\text{L}$	637 $\mu\text{L}$
8mm	1,507 $\mu\text{L}$	1,703 $\mu\text{L}$
10mm	2,465 $\mu\text{L}$	1,712 $\mu\text{L}$

# Precision Large Volume NMR Tubes



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

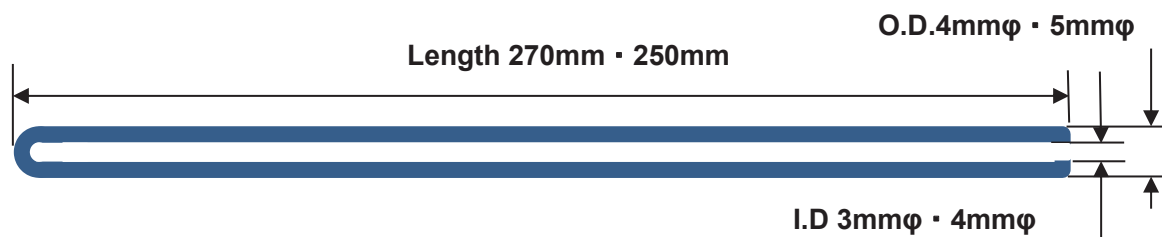
If you need more volume, see “Ultra Thin wall (page 23)”

Volume comparison (40mm Height)

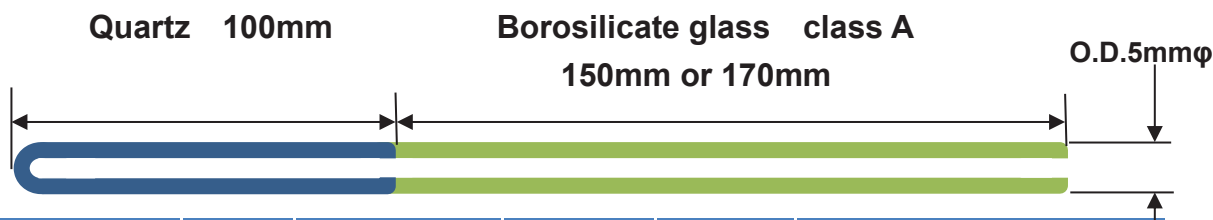
I.D(φ)	Thin wall	Ultra Thin Wall
5mm	550μL	637μL
8mm	1,507μL	1,703μL
10mm	2,465μL	1,712μL

# ESR (EPR) Quartz Tubes

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



Part N.O.	O.D.	I.D.	Length	Material
EPS-004J	4mm	3mm	270mm	Fused Silica
EPS-004B	4mm	3mm	250mm	Fused Silica
EPS-005J	5mm	4mm	270mm	Fused Silica
EPS-005B	5mm	4mm	250mm	Fused Silica



Part N.O.	O.D.	I.D.(borosilicate glass)	I.D.(Quartz)	Length	Material
EPW-005J	5mm	3mm	4mm	270mm	Quartz 100mm(Bottom) Borosilicate glass 170mm (Upper)
EPW-005B	5mm	3mm	4mm	250mm	Quartz 100mm(Bottom) Borosilicate glass 150mm (Upper)

The material produced by Shinetsu Quartz Co. LTD

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

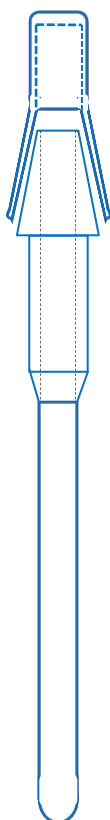
# TRUE GAS TIGHT TUBE FOR NMR · ESR

It is effective for samples that are sensitive to vacuum, nitrogen substitution, evaporation, water absorption, etc. Apply vacuum grease to the edge of the lid before use. Be careful not to let grease get into the sample tube. It can withstand long-term sealing.

## Benefit

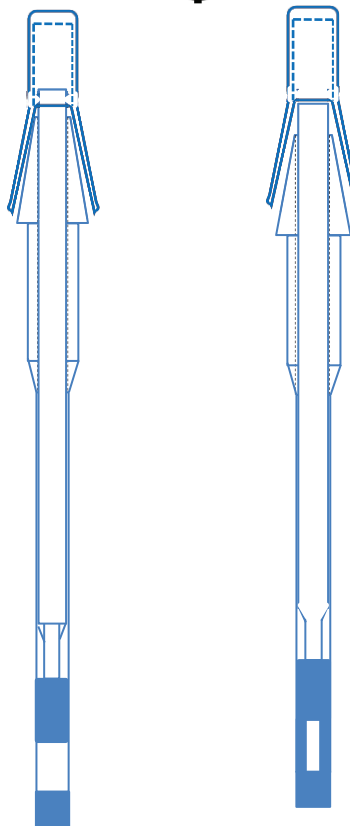
1. To keep long term vacuum.
2. No need HEAT SEALING.
3. Standard Taper

§



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

§



	P.N	
5mm NMR Gas tight tube	PS-003GT	1Set
5mm symmetrical MICRO NMR Gas tight Tube for D <sub>2</sub> O	BMS-005BGT	1Set
	BMS-005JGT	1Set
	BMS-005VGT	1Set
5mm symmetrical MICRO NMR Gas tight Tube for CDCl <sub>3</sub>	CMS-005BGT	1Set
	CMS-005JGT	1Set
	CMS-005VGT	1Set
5mm symmetrical MICRO NMR Gas tight Tube for DMSO((CD <sub>3</sub> ) <sub>2</sub> SO),Benzene (C <sub>6</sub> D <sub>6</sub> ), Pyridine (C <sub>5</sub> D <sub>5</sub> N)	DMS-005BGT	1Set
	DMS-005JGT	1Set
	DMS-005VGT	1Set
5mm symmetrical MICRO NMR Gas tight Tube for Methanol(CD <sub>3</sub> OD),Acetonitrile (CD <sub>3</sub> CN)用	MMS-005BGT	1Set
	MMS-005JGT	1Set
	MMS-005VGT	1Set
SLOT TUBE Gastight	SBMSGT	1Set
5mm NMR Gas tight tube(Quotz)	SS-002GT	1Set
5mm ESR Gastight tube (Quotz) length 250mm	EPS-005BGT	1Set
5mm ESR Gastight tube (Quotz) length 270mm	EPS-005JGT	1Set
4mm ESR Gastight tube (Quotz) length 250mm	EPS-004BGT	1Set
4mm ESR Gastight tube (Quotz) length 270mm	EPS-004JGT	1Set

# Accessories

## NMR Tube Caps



Parts N.O.	Description	Color
CP-005-Y	5mm	Yellow
CP-005-G	5mm	Green
CP-005-R	5mm	Red
CP-005-P	5mm	Pink

## PTFE NMR Tube Caps

Parts N.O.	Description
CT-003	3mm
CT-004	4mm
CT-005	5mm
CT-008	8mm
CT-010	10mm



## FKM NMR Tube Caps

Parts N.O.	Description
CF-004	4.1mm
CF-005	5mm
CF-010	10mm



## FKM NMR Tube Caps

Parts N.O.	Description
CS-005	5mm

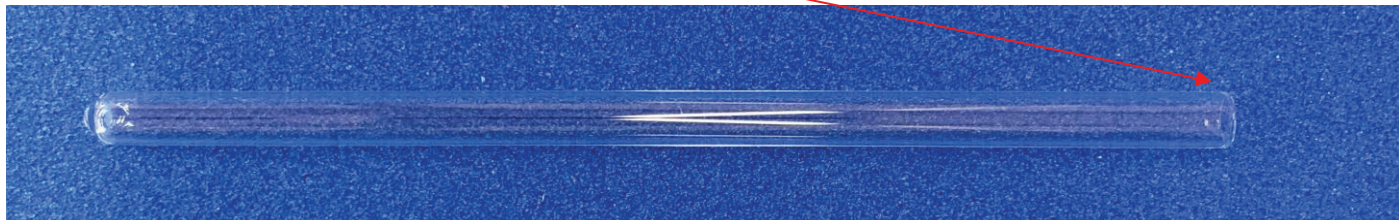


# 5mm NMR SAMPLE TUBE for SampleJet

## SJ-5

### BENEFIT

- ☆High precision O.D. good for spinning, put on caps, insert spinner.
- ☆Material:DURAN ASTM ClassA good for variable temperature.
- ☆To melt end face for strong damage.



### SPECIFICATION

Part Number	(mm)				straightness(μm)
	Length	O.D.	I.D		
SJ-5	103.5(4inch)	4.965 +0.005 -0.010	4.220	±0.10	30

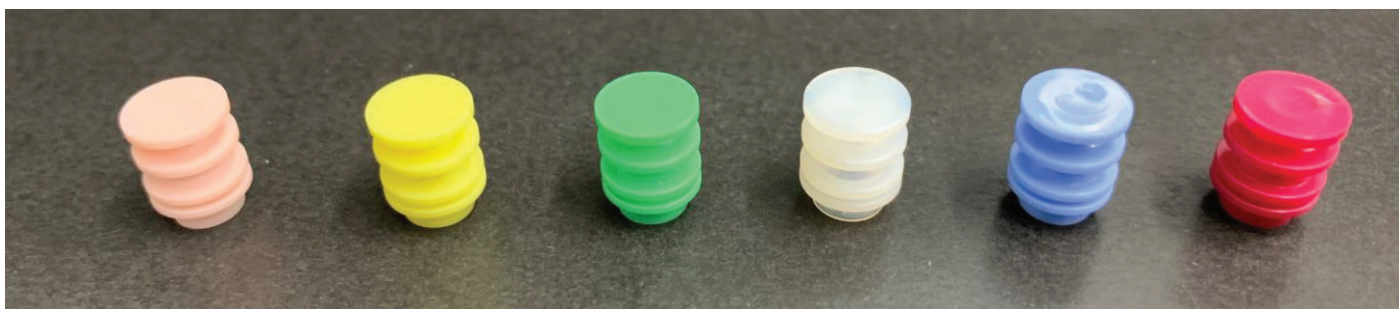
### Price

10packs(1,000PCS) (Minimam order unit)

10packsX1pack(100 pcs of tubes)(13,000JPY)=130,000JPY

## CAPS for SJ-5

Just fit for SJ5 Price 1pack in 100 PCS of caps 5,800JPY



### Part Number

SJC-5P(pink), SJC-5Y(yellow), SJC-5G(green), SJC-5W(white), SJC-5B(blue), SJC-5R(red)