MX3 pucks, pins, and tools information

ANSTO

Puck compatibility **BEFORE** MX2 upgrade (end of 2025)

	MX1	MX2	MX3
'Old' Australian Synchrotron pucks	✓	✓	✗
Unipucks	✓	✓	✓

ANSTO

Puck compatibility **AFTER** MX2 upgrade (end of 2025)

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ANSTO

old system

8 pucks per cradle

new system

7 pucks per cradle

ANSTO

old system

8 pucks per cradle

No puck lids needed

Pins are picked up by their bases

new system

7 pucks per cradle

Lids required

Pins are picked up ‘upright’

old system

8 pucks per cradle

No puck lids needed

Pins are picked up by their bases

No ‘notches’ or internal thread

new system

7 pucks per cradle

Lids required

Pins are picked up ‘upright’

Notches and internal thread needed

ANSTO

old system

8 pucks per cradle

No puck lids needed

Pins are picked up by their bases

No ‘notches’ or internal thread

Engraved ID

new system

7 pucks per cradle

Lids required

Pins are picked up ‘upright’

Notches and internal thread needed

Engraved ID and QR code

ANSTO

old system

8 pucks per cradle

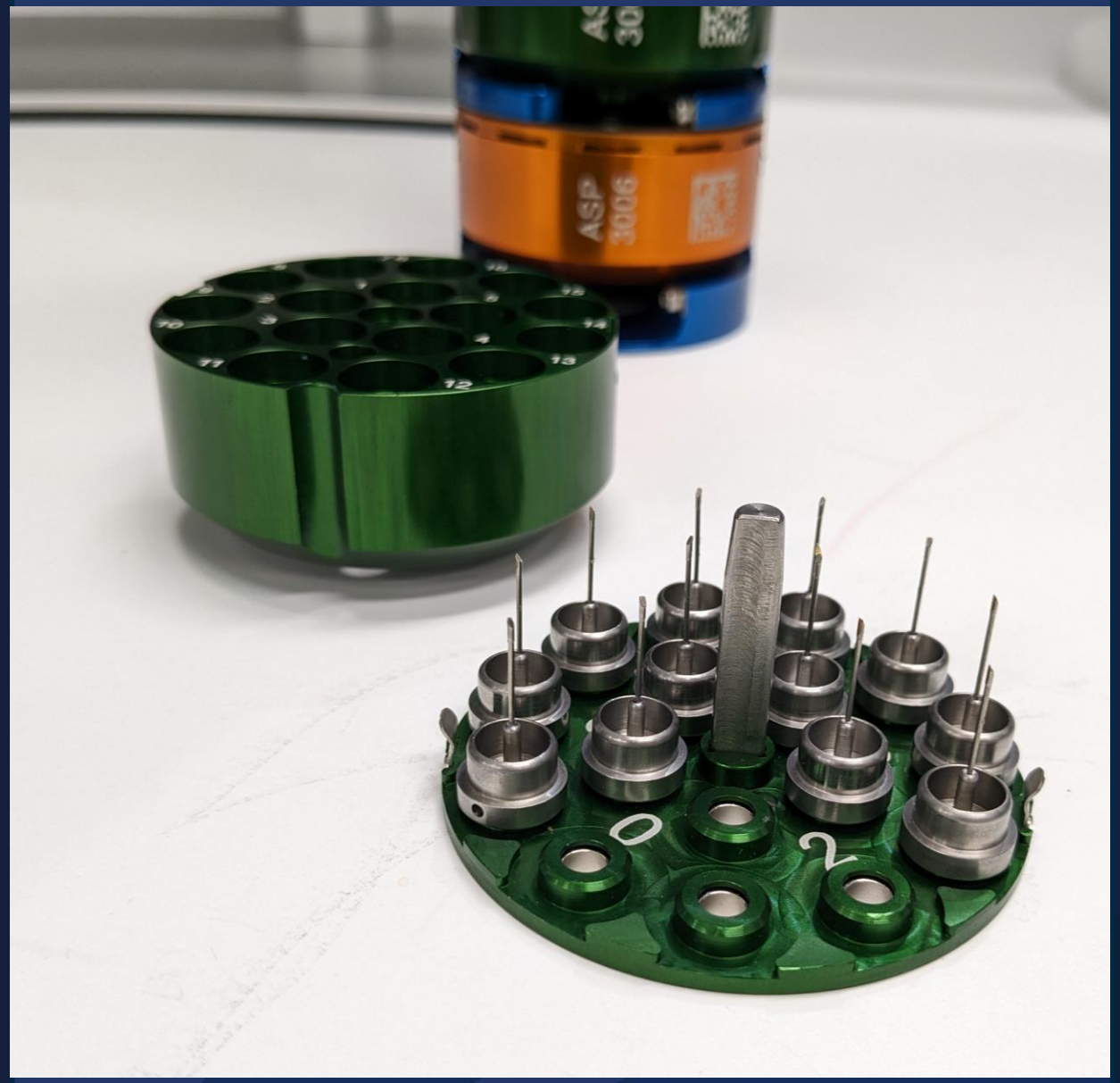
No puck lids needed

Pins are picked up by their bases

No ‘notches’ or internal thread

Engraved ID

Pin free-for-all



new system

7 pucks per cradle

Lids required

Pins are picked up ‘upright’

Notches and internal thread needed

Engraved ID and QR code

One type of pin per puck (ideally B5 SPINE type)

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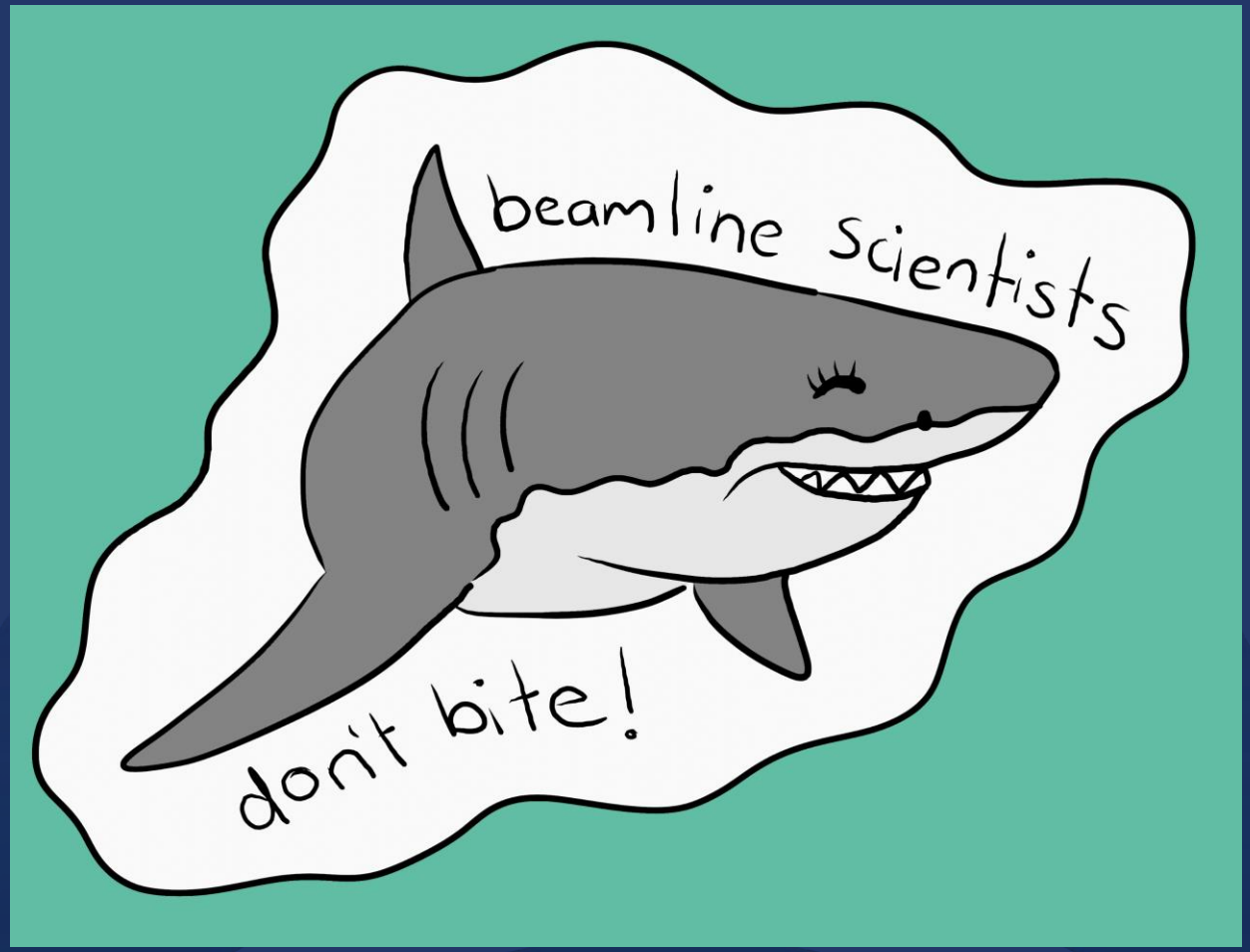
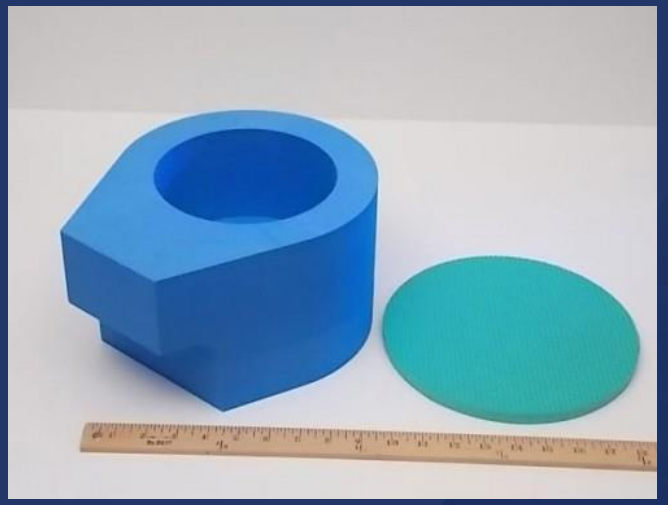
If you haven’t already arranged to have your existing old pucks modified, please get in touch with Eleanor for options:

campbele@ansto.gov.au



Tools you might already have if you send pucks to MX1 and MX2

Cryo tongs



Foam dewar

Magnetic pin wand

These are the standard tools you might use to load pins into pucks under LN2, then handle the cold puck into the cradle in your shipping dewar.

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Tools you might need for using Unipucks

Puck wand base holder tool

For putting the lid on your puck after you've filled it with pins. It's just a steel disc on an LN2-safe plastic rod, could be made in-house if you're handy.

Watch this video from Diamond Lightsource for demo of Unipuck loading with this tool:
https://www.youtube.com/watch?v=20z5N5SOAIk

Puck separator tools

For popping the lids off your pucks while keeping everything underneath LN2.

Watch this video from Diamond Lightsource for demo of Unipuck lid separation with this toolset:
https://www.youtube.com/watch?v=20z5N5SOAIk

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Unipuck kit from Crystal Positioning

HOME / UNIPUCKS

Universal Puck Kit #1

$4,297.40

This Universal Puck Kit #1 Contains the following:

7 Universal Pucks (CP-111-021-7)

1 Double Puck Loading Dewar with Lid (CP-111-022)

1 Puck Shipping Cane with Locking T-Handle & Lifting J-Hook (CP-111-065)

1 Puck Wand (CP-111-026)

1 Puck Dewar Loading Tool\Puck Pusher (CP-111-027)

1 Puck Separator Tool & Base (CP-111-028)

1 Bent Cryo-Tong (CP-111-030)

* Puck Kit Shipping\Carry Case is Sold Separately as CP-111-061

- 1 + ADD TO CART

In $ USD

This is a tool we use at MX to load your pucks into the dewar, you won't need one in your lab

I prefer the bent tongs to the flat ones

https://www.crystalpositioningsystems.com/product/universal-puck-kit-1/

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If you're getting pucks and cradles modified via MX:

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\- 1 + ADD TO CART

Your existing pucks will be modified, and if you're buying lids through MX, no need to buy those from CPS either

Your shipping cane/cradle will be modified, no need for T bar or J hook

You can buy the individual tools separately too

https://www.crystalpositioningsystems.com/product/universal-puck-kit-1/

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Unipuck kit from Mitegen

Universal Puck (Uni-Puck) Starter Kits

To get you up–and–running sending samples to the beamline in easy-to-order bundles.

FULL DESCRIPTION

0		Uni-puck Starter Kit 1 SKU: M-CP-UPSK001	$4,290.00
0		Uni-Puck Starter Kit 2 SKU: M-CP-UPSK002	$6,327.00
0		Uni-Puck Starter Kit 3 SKU: M-CP-UPSK003	$8,092.00
0		Uni-Puck Starter Kit 3 (x2) SKU: M-CP-UPSK003-2	$16,134.00
0		Storage Case for Uni-Puck Starter Kit SKU: M-CP-UPSK-C1	$359.00

https://www.mitegen.com/product/universal-pucks-starter-kits/

Starter kit 1 is identical to CPS, similar price.

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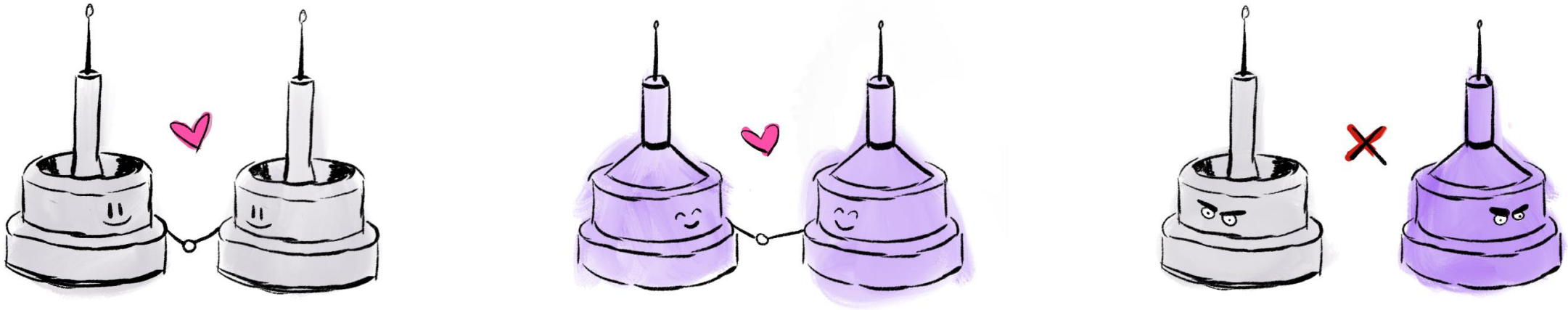
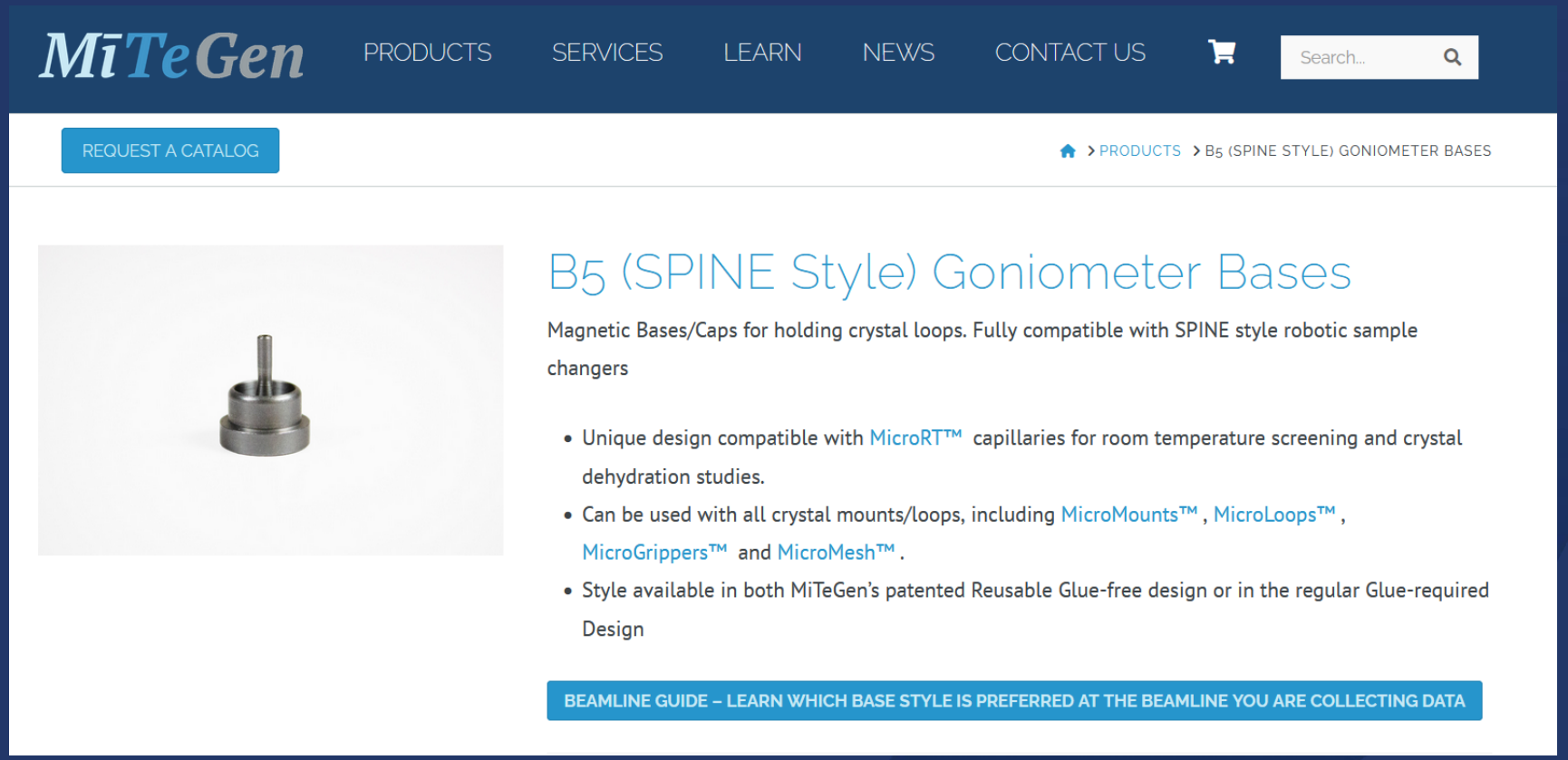
Pin bases

When filling pucks for MX3



only <u>one</u> type of pin per puck!

Pin bases: we recommend B5 SPINE style



https://www.mitegen.com/product/b5-spine-style-goniometer-bases/

If you're buying new pin bases, we would recommend SPINE style.

They are lighter than the B3 style, so equilibrate faster when taken from LN2 and mounted on the goni (thermal expansion)

B5 SPINE pins are compatible with MX1, MX2 and MX3.

You can use any loop style as long as your pin bases are consistent per puck.

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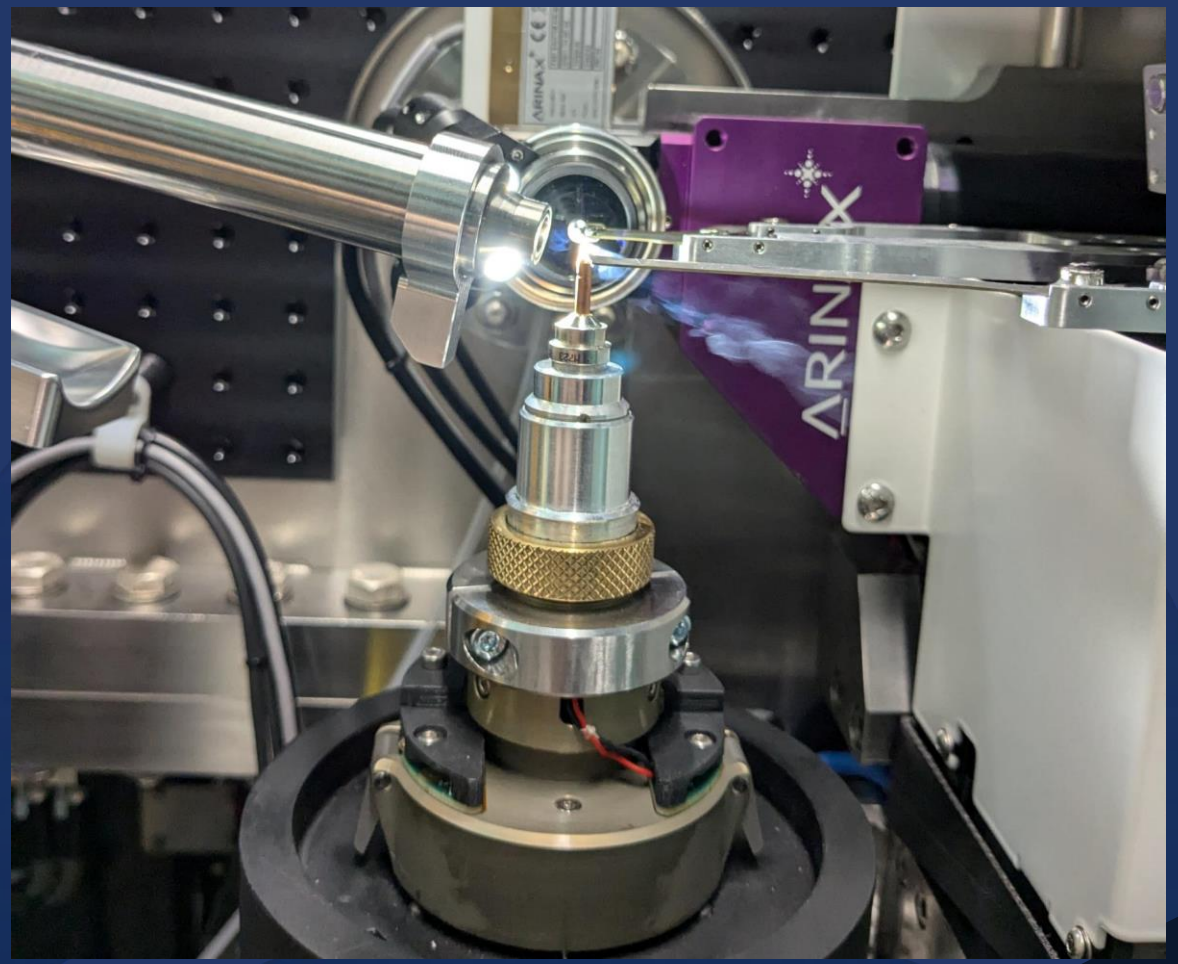
Pin length: 22 mm +/- 0.5 mm

The cryojet on MX3 is at an angle to the goniometer, rather than in line with the direction of the pin.

This means pin length is more important because pins too long or too short will spend a bit of time outside the main flow of the N2.

Automated centering will minimise this time, but we would still recommend 22 mm pin lengths for MX3



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