



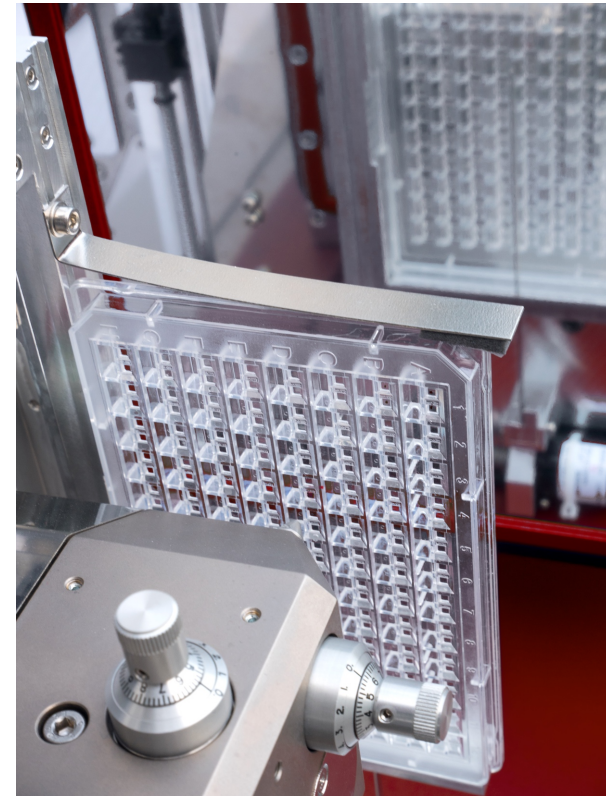
**marXperts**

Introducing the

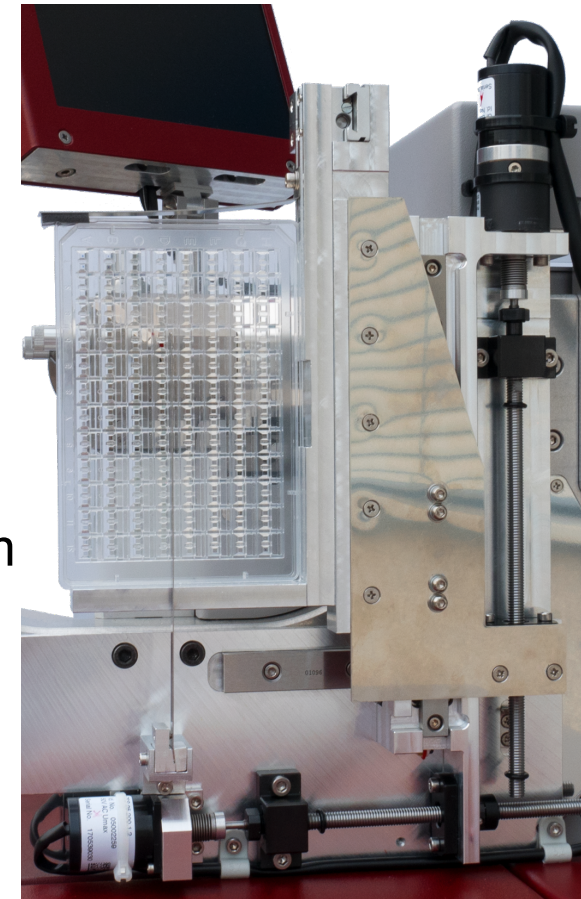
**marXps**

Crystallization Plate Scanner

- Addition to standard **mar***dtb*
- x,y-translation stage for crystallization plate
- Fully integrated into **mar***dtb* control system
- Full hardware control from **mar***dtb* software
- Fully automatic data collection from selected drops
- Option to keep the PHI-axis mounted
- Works with **mar***345* and DECTRIS detectors

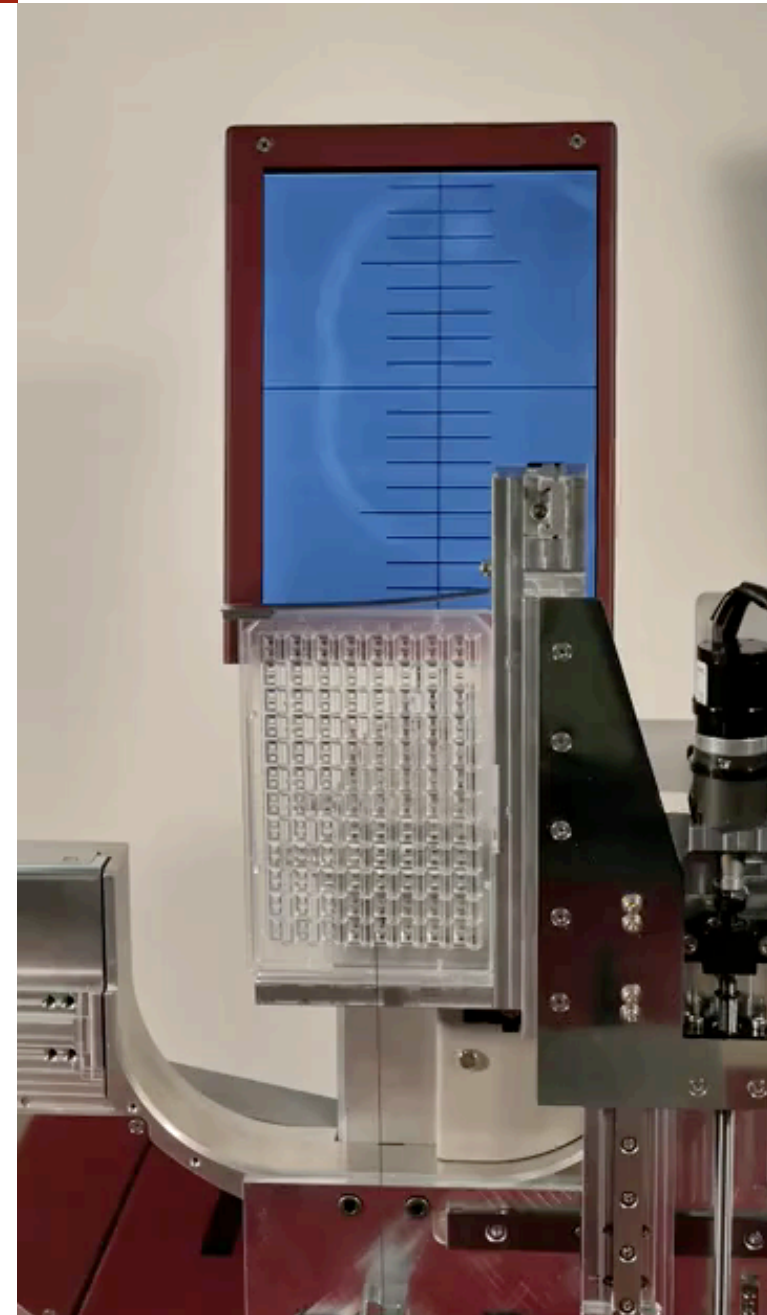


- Accepts 96 well plates from several manufacturers (Greiner, Swissci, etc.)
- Handles plates with 1, 2, 3 or 4 drops/well
- Bracket for mounting “normal” and “low profile” plates
- Drops visible in built-in microscope
- Hor. stepper with range of 130 mm, step size: 5  $\mu\text{m}$
- Ver. stepper with range of 140 mm, step size: < 1  $\mu\text{m}$
- Translation speed: approx 2.5 mm/sec
- Hardware initialization for hor. & ver. steppers



## Mounting of crystallization plates

- Mounts for normal and low profiles plates
- Mounting and unmounting does not require any tools (no screws)
- Flexible steel bracket keeps tray in its position
- Drops are at focus of crystal camera



## Moving around

- Move from drop to drop with fast hor. & ver. stepper motors
- Motor positions are reproducible
- Motors can be moved from remote control unit, from mar345dtb data collection software and from Android app
- Software keeps track of x,y-coordinates



## Automatic data collection

Fully automatic data collection from all drops in a well:

1. From predefined x,y-coordinates
2. Using a defined horizontal and vertical grid
3. A combination of 1 and 2



# Software: Layout

- Easy-to-use interface with visual feedback.
- Coordinates and foto for each drop are stored
- Drops can be selected in defined order for automatic data collection
- Fully customizable layout for large variety of crystallization plates

Image Edit Align Motors Initialize Misc. Log Crystal XPS

**Motor positions**

Position	Target		
X: 10.855	10.855	Move	Init
Y: 5.864	5.864	Move	Init

**Plate ID**

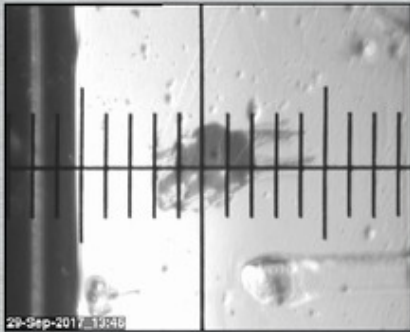
Custom  Save

**Selected drop**

**Drop B - 1 - a**

Status: confirmed

x/y [mm]: 10.935 / 3.074



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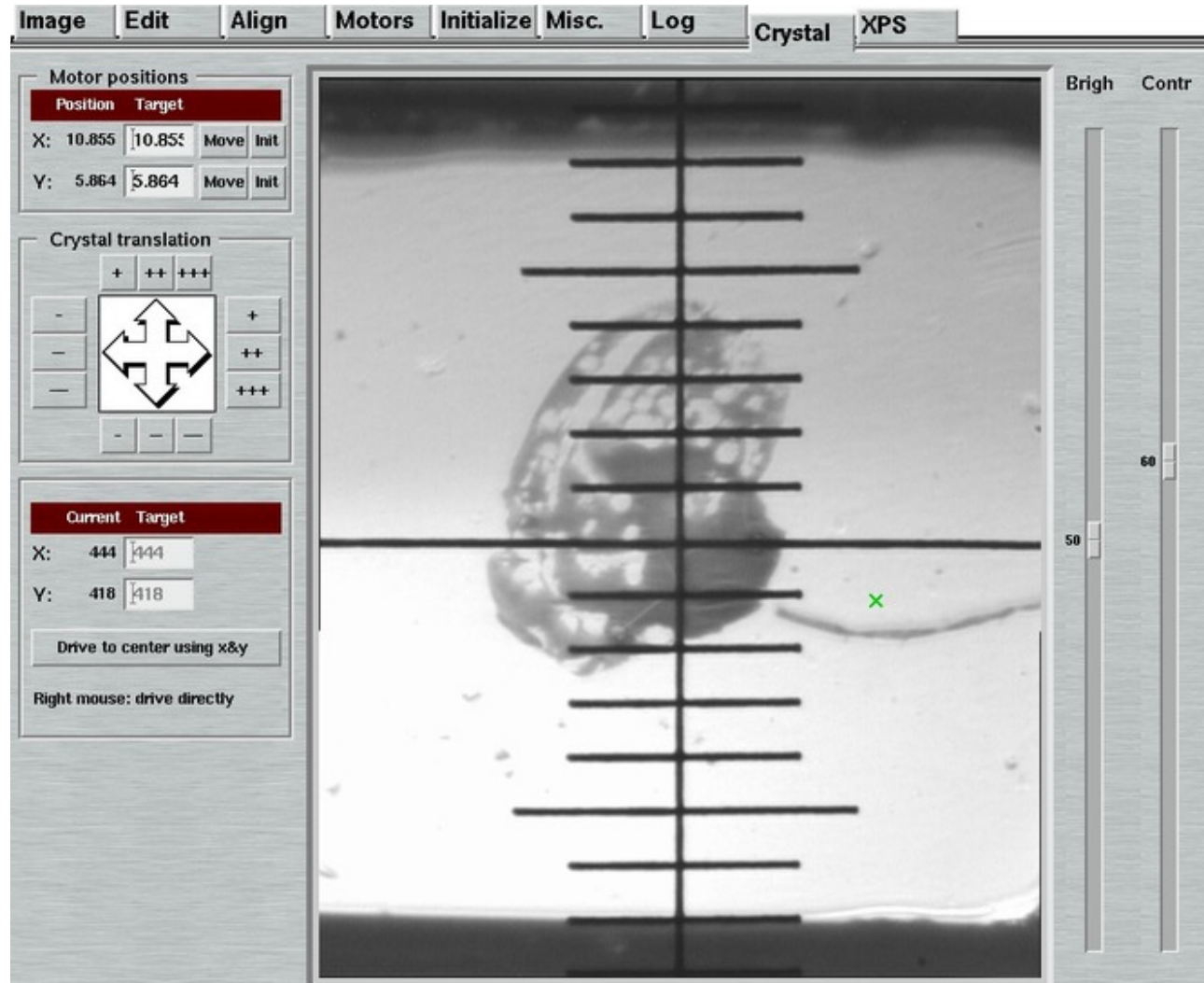
**Crystallization plate**

Setup Flip Mouse Show Move Confirm Skip Queue

	H	G	F	E	D	C	B	A	
1	a	a	a	a	a	a	a	a	
	b	b	b	b	b	b	b	b	
2	a	a	a	a	a	a	a	a	
	b	b	b	b	b	b	b	b	
3	a	a	a	a	a	a	a	a	
	b	b	b	b	b	b	b	b	
4	a	a	a	a	a	a	a	a	
	b	b	b	b	b	b	b	b	
5	a	a	a	a	a	a	a	a	
	b	b	b	b	b	b	b	b	
6	a	a	a	a	a	a	a	a	
	b	b	b	b	b	b	b	b	
7	a	a	a	a	a	a	a	a	
	b	b	b	b	b	b	b	b	
8	a	a	a	a	a	a	a	a	
	b	b	b	b	b	b	b	b	
9	a	a	a	a	a	a	a	a	
	b	b	b	b	b	b	b	b	
10	a	a	a	a	a	a	a	a	
	b	b	b	b	b	b	b	b	
11	a	a	a	a	a	a	a	a	
	b	b	b	b	b	b	b	b	
12	a	a	a	a	a	a	a	a	
	b	b	b	b	b	b	b	b	

## Software: Camera

- Built-in camera of dtb is focused on drops
- Point & click translations for easy centering
- Fine adjustments within +/- 1  $\mu\text{m}$  accuracy
- Drops of fotos are stored in defined places on the PC







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