

LEAP >>



Zero-loss | Zero-drip  
High-throughput | Ultra-reliable

## MFX Collector

Consistently perform your most critical  
fraction collection experiments

**Zero-loss, zero-drip, high-throughput and ultra-reliable:** the new microfraction collection system from Trajan LEAP Automation offers you everything you need to consistently perform your most critical collection experiments.

The MFX Collector has been purposefully designed to optimize fraction collection for the sharpest peaks, the maximum dependability, and the greatest ease of use. With smart software features and automation, this analytical fraction collection system is the most reproducible, and highly compatible platform available today.

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## MFX Collector

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**The highest capacity, most flexible system available**

Fully customizable collection into a variety of plate and vial types, including sealed container collection: 96 and 384 well plate formats, 2 mL and 10 mL vial formats (sealed or open), and 2 mL and 10 mL tube formats.

Compatibility with a broad range of analytical flow rates, sub-ambient temperature control, and user-friendly software are just a few of the features that make this new system the perfect evolution for your fraction collecting needs.

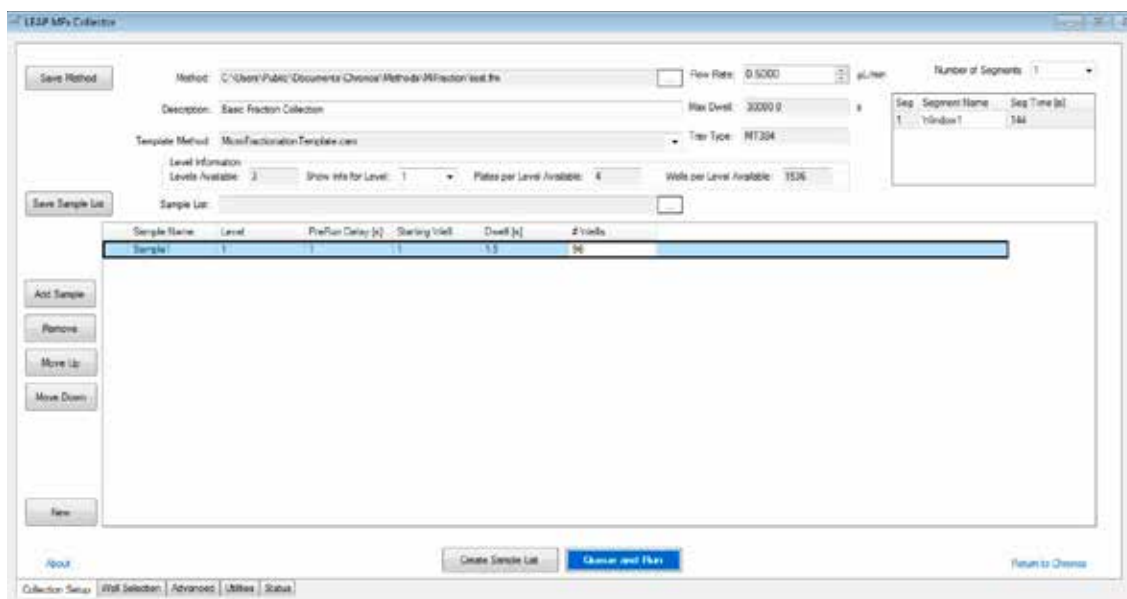
- Completely new, optimally designed software, operating using the powerful Chronos architecture, allows maximum system compatibility.
- Highly efficient scheduling, extensive live-logging, and responsive operation handling routines.



## Software - setup for collection has never been easier

Users are provided a specialized screen for easy method and collection sequence creation.

Unlimited fractions can be collected in up to four time windows. This allows the gathering of peaks of interest and unwanted fractions to be sent to waste.



*MFx Collector method setup screen*

## Tabular and visual method creation

- The visual well selection feature empowers users to define collection ranges with a point-and-click, exactly targeting wells without guesswork.
- Similarly, standard tabular sample creation can be confirmed visually for the greatest confidence.



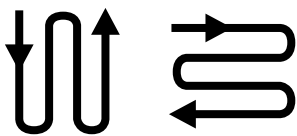
Maintains highest peak resolution with sub-2 second fractions, while providing simplified data correlation, and advanced sample tracking

- Accurate time-point control and real-time collection recording, with live log and visual status options.
- Easy export of collection log to Excel or CSV for simple data correlation.

Date	Time	RT (min)	Seg	Seg Name	Plate/Vial	vVial	WellNumber
11/03/2017	16:51:13	00.000	1	Window1	Drawer 1:Slot1:1	A1	1
11/03/2017	16:51:15	00.041	1	Window1	Drawer 1:Slot1:2	A2	2
11/03/2017	16:51:17	00.087	1	Window1	Drawer 1:Slot1:3	A3	3
11/03/2017	16:51:18	00.092	1	Window1	Drawer 1:Slot1:4	A4	4
11/03/2017	16:51:20	00.157	1	Window1	Drawer 1:Slot1:5	A5	5
11/03/2017	16:51:22	00.183	1	Window1	Drawer 1:Slot1:6	A6	6
11/03/2017	16:51:23	00.188	1	Window1	Drawer 1:Slot1:7	A7	7
11/03/2017	16:51:25	00.194	1	Window1	Drawer 1:Slot1:8	A8	8
11/03/2017	16:51:26	00.219	1	Window1	Drawer 1:Slot1:9	A9	9
11/03/2017	16:51:28	00.244	1	Window1	Drawer 1:Slot1:10	A10	10
11/03/2017	16:51:29	00.270	1	Window1	Drawer 1:Slot1:11	A11	11
11/03/2017	16:51:31	00.285	1	Window1	Drawer 1:Slot1:12	A12	12
11/03/2017	16:51:32	00.321	1	Window1	Drawer 1:Slot1:13	A13	13
11/03/2017	16:51:34	00.347	1	Window1	Drawer 1:Slot1:14	A14	14
11/03/2017	16:51:35	00.372	1	Window1	Drawer 1:Slot1:15	A15	15
11/03/2017	16:51:37	00.401	1	Window1	Drawer 1:Slot1:16	A16	16
11/03/2017	16:51:39	00.424	1	Window1	Drawer 1:Slot1:17	A17	17
11/03/2017	16:51:40	00.451	1	Window1	Drawer 1:Slot1:18	A18	18
11/03/2017	16:51:42	00.477	1	Window1	Drawer 1:Slot1:19	A19	19
11/03/2017	16:51:43	00.502	1	Window1	Drawer 1:Slot1:20	A20	20
11/03/2017	16:51:45	00.528	1	Window1	Drawer 1:Slot1:21	A21	21
11/03/2017	16:51:46	00.553	1	Window1	Drawer 1:Slot1:22	A22	22
11/03/2017	16:51:48	00.570	1	Window1	Drawer 1:Slot1:23	A23	23

LEAP microfractionation fraction log

- Active run graphic display of fraction collection showing real-time status of each fraction position.



Options provided for both serpentine by columns or serpentine by rows.



Active running status

## Smart features offer convenience and reduce error



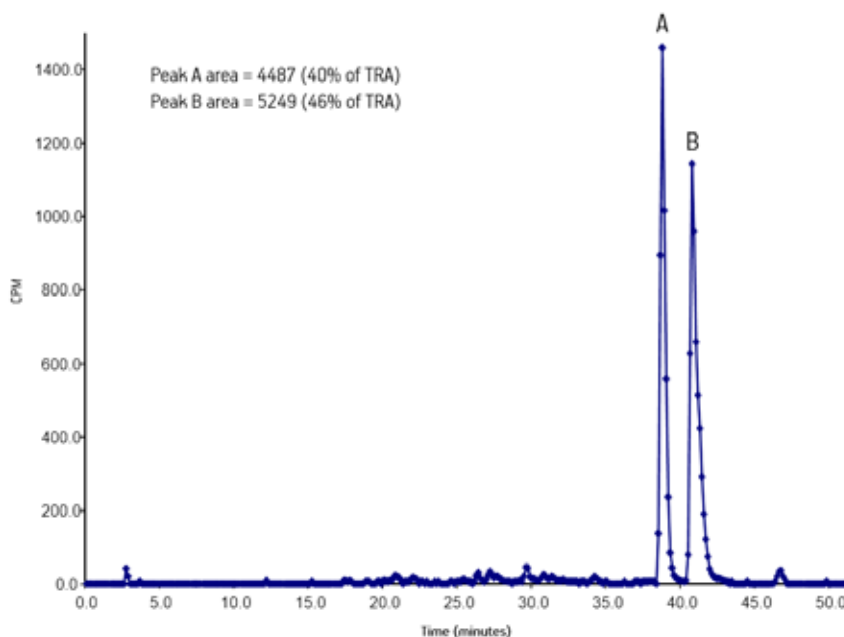
- Auto-checking of tray locations before run ensures confidence that the collection will be successful.
- Automatically closes open drawer(s) before a run, correcting human error.
- Built-in calculators allow focus to remain on analytical goals without the need to calculate fluidic considerations manually.

Tubing Volume Calculator				
Tubing Type	ID (in)	ID (µm)	Max Pressure (bar)	Max Pressure (psi)
PEEKail Orange	0.00098	25	1724	25000
Tube Length (cm)	Volume (µL)	Calculate Volume		
0				
Delay Time Calculator				
Tube Volume (µL)	Flow Rate (µL/min)	Calculate Delay Time (s)		
0.00	0.0000			
Delay Time (s)				

*Built-in calculators for tubing volume and delay time help with data reporting and reducing user errors*

## Reliable engineering and consumables for sharp peaks and reproducibility

- Tubing replacement kits with pre-cut tubing, optimized fittings and ferrules ensure that the MFX Collector, built on the trusted **PAL** SYSTEM platform, is the most advanced fraction collection automation for zero carryover, sharper peaks and stunning reproducibility.



*An example of actual sample collection with the MFX Collector, showing baseline resolution and well-defined peaks*

## Unique dynamic flow reservoir

The precision engineered and long lasting dynamic flow reservoir (DFR) allows the MFX Collector to continue collecting chromatographic flow while the automation is moving between wells, resulting in zero-loss.

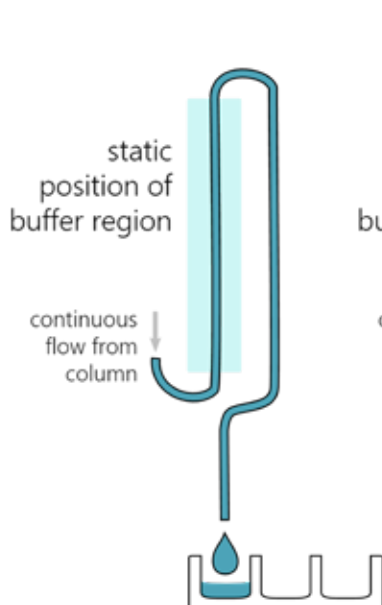
The design achieves a turbulence-free, fully optimized flowpath for collection without peak dispersion.

## Undisturbed flowpath for minimal peak diffusion

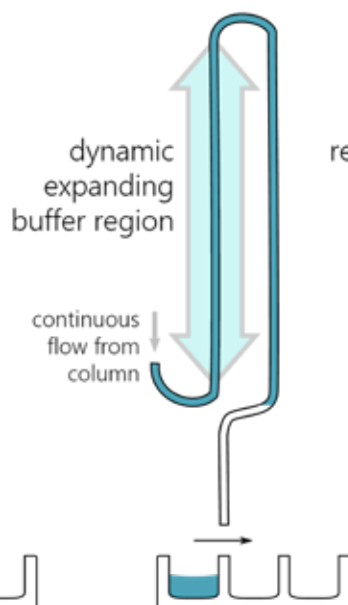
While flow to the buffer region remains constant during both well filling and robot movement, the buffer region will expand as the DFR travels between wells. This retracts any hanging droplets, and avoids peak diffusion by allowing continuous flow. The buffer region contracts to resume dispensing at the next well.



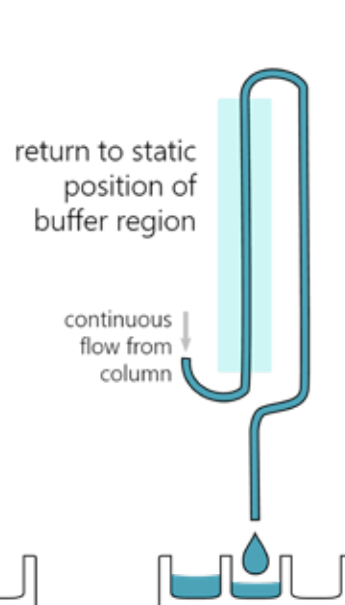
During well filling



During movement



Resuming well filling

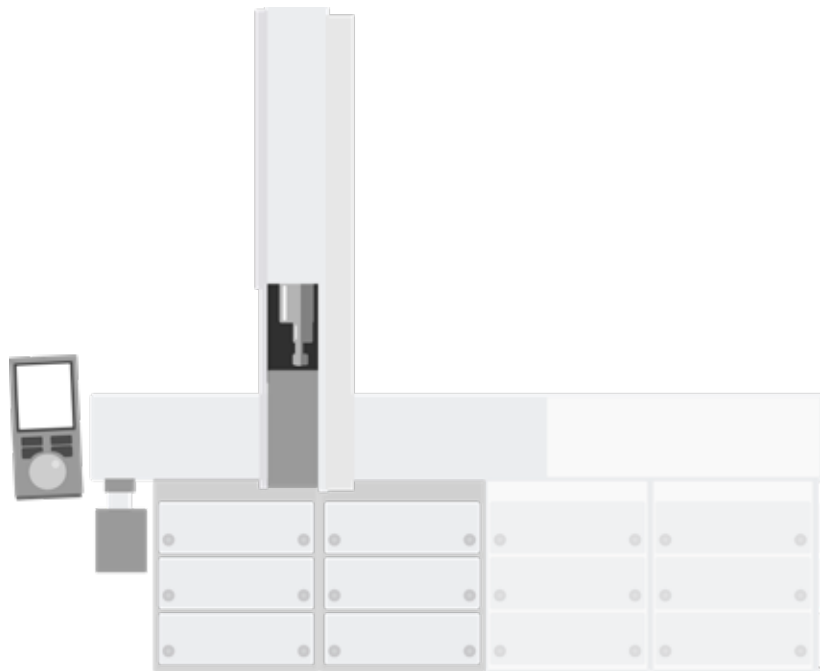


100% of sample flow is collected, with zero-loss.

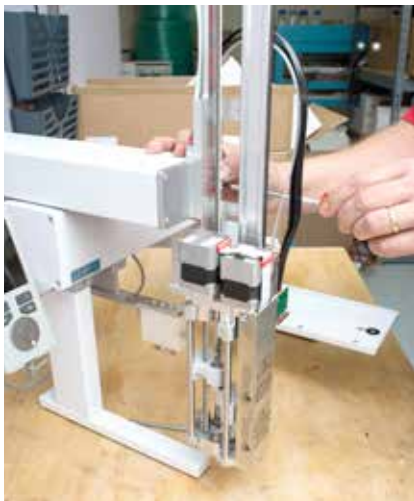
## Advanced hardware

The most flexible system on the market, the MFX Collector solution is available:

- In multiple plate capacities (up to 24 plates).
- With and without sample cooling.
- For 96 and 384 well formats, low profile and deep-well, as well as both sealed and open vials.
- An extra capacity version is available for standard height well plates which extends the maximum plate capacity to 48 plates.



<b>Plate capacity:</b>	Up to 12 plates	Up to 24 plates
<b>Instrument width:</b>	50 cm	120 cm



## Designed for safety and serviceability

- Allows the use of sealed plates or vials for limiting exposure to hazardous samples.
- Sub-ambient storage and large capacities for overnight runs.
- Well-plate sensing and no-drip features ensure no-leak dispensing.
- Easy to access for quick replacement of both the DFR and needles.
- Tubing replacement kits come precut and with matching fittings and ferrules.
- Built upon the **PAL SYSTEM** platform, with enhanced electronics and firmware.

	MFX Collector	Competitor 1	Competitor 2
Zero-loss collection (doesn't divert to waste)	✓	x	x
Cooling to 4°C	✓	✓	x
<b>Maximum capacity:</b>			
Deep well plates	24	4	8
Shallow well plates	48	4	8
Vials/tubes	24 trays (up to 1296 tubes/vials)	215 tubes	768 tubes

# MFx Collector

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Specifications	
Maximum flow rate	> 5 mL/min
Minimum dwell time	< 2 seconds/well
Collection formats	96 and 384 well plates (deep and shallow), 2 mL and 10 mL vials/tubes
Sealed collection	Can pierce sealed plates and sealed vials
Computer requirements (minimum)	Operating system: Windows 7 SP1 (32 or 64 bit), Windows 8.1 or Windows 10. Hardware: Intel Dual Core 2.0 GHz, 60 GB hard disk, 4 GB RAM, dedicated ethernet port or free location on local private network switch with 1 free USB port for security dongle. Monitor: 1366x768 (recommended 1440x900 or 1920x1080).

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Visit us at [www.trajanscimed.com](http://www.trajanscimed.com) or contact your regional Trajan representative for assistance and further information.

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