



AutoMax™ Samplers

Robotic samplers to automate your analyses



AutoMax[™] Samplers

The AutoMax[™] 73, AutoMax[™] 122, and the AutoMax[™] 197 are rugged, reliable samplers that, combined with Man-Tech's sample preparation and analysis capabilities, deliver reliable results consistently, day after day.

> With Man-Tech AutoMax™ Samplers, your laboratory benefits from:

- Reliability
- Flexibility
- Complete software control
- Low Cost of Ownership



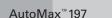
Man-Tech was the first company to introduce true X, Y, Z robotic autosamplers to the titration industry. Following our continued tradition of innovation, we have added ion analysis, turbidity, spectrophotometry and BOD to the automation platforms.

Man-Tech samplers are rugged, reliable and proven to operate day in and day out for many years, with little maintenance. An investment in Man-Tech automation is an investment in performance, efficiency and profitability.



AutoMax[™]73





Features and Benefits



- Rugged, durable, reliable and proven to operate for years, with little maintenance
- Completely controlled by Man-Tech software
- Flexibility allows for easy sample preparation, liquid handling, heating/cooling, covering/uncovering, analysis, etc.
- Probes travel directly to sample and rinse positions, eliminating extra movements
- Sampler only travels over analyzed samples or between sample rows, eliminating the potential for cross contamination
- Integrated dynamic flowing rinse station and the capability to define multiple rinse stations
- Capability to use many different tubes, sample cups and beakers. Custom racks are easily incorporated
- Capacity ranges from 18 to 197 sample positions, using standard Man-Tech racks - the largest range and capacity on the market

Man-Tech has over 39 years of automation experience utilizing X, Y, Z and carousel autosamplers in different instrument configurations. The decision to employ X,Y and Z autosamplers was made specifically to enhance the value for laboratories. Man-Tech AutoMax[™] samplers provide superior value, along with leading edge technology that will meet the needs of laboratories now and in the future.







AutoMax[™]122

AutoMax[™] Sampler Racks

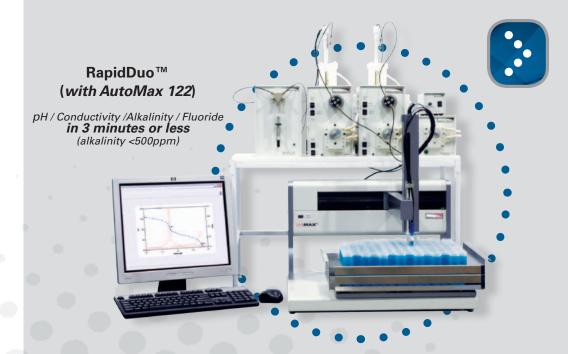
| | AutoMax™ 73 | AutoMax™ 122 | AutoMax™ 197 |
|-----------------------------------------|----------------|-------------------------|-------------------------|
| 50ml tubes | 73 | 122 | 197 |
| 120ml sample cups | 40 | 62 | 97 |
| 125ml sample cups | 30 | 47 | 77 |
| 125ml sample cups for TAN/TBN | | 50 | |
| 300ml glass beakers | 18 | 23 | 44 |
| 300ml BOD bottles (glass or disposable) | 11 | 24 | N/A |
| Custom Racks | \checkmark | \checkmark | \checkmark |
| Rinse Stations: | | | |
| Dynamic - IntelliRinse™ | \checkmark | \checkmark | $\overline{\checkmark}$ |
| Dip | \checkmark | $\overline{\checkmark}$ | $\overline{\checkmark}$ |
| Rinse Positions | 1 to 20 | 1 to 20 | 1 to 20 |
| Quality Control Set Positions | 1 to 20 | 1 to 20 | 1 to 20 |
| Interchangeable Racks | \checkmark | $\overline{\checkmark}$ | $\overline{\checkmark}$ |

Probe Holders for AutoMax[™] Samplers

| | Probe Holder 1 | Probe Holder 2 | Probe Holder 3 |
|-------------------------------------------------|-------------------|-------------------|-------------------|
| Stirrer | 1 | 1 | 1 or 2 |
| Electrodes | 1 | 2 | 3 |
| Thermistor | 1 | 1 | 1 |
| Dispense Tips/Turbidity & Color Aspiration Tips | 2 | 5 | 4 |
| Used with: | | | |
| 50ml tubes | \checkmark | | |
| 120ml sample cups | \checkmark | \checkmark | |
| 125ml sample cups | \checkmark | \checkmark | \checkmark |
| 300ml glass beakers | \checkmark | \checkmark | \checkmark |

*Custom probe holders are available. Specifications including probe requirements and sample cup design are required to design and manufacture a custom probe holder.

**The AutoMax 122 and AutoMax 197 have the capability to connect 2 or 3 separate probe



Man-Tech Systems with AutoMax™ Samplers

Many more configurations available!





Invest in the Best Invest in Man-Tech Automation

holders on the same arm. Example: Simultaneous pH measurement in two different samples.

Advantages of X,Y,Z, Samplers VS. Carousel Autosamplers

| Advantages of the Man-Tech AutoMax™ Samplers | Disadvantages of Carousel Autosamplers |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Man-Tech AutoMax™ robotic sampler probes move directly to the samples, while the sample cups remain stationary. | With a carousel autosampler, the sample cups have to move to set positions where the probes can reach them. This requires extra move steps with 5 very important considerations, all of which may fail: |
| | Start Decelerate |
| | Accelerate Stop at the correct position |
| | Move at constant speed |
| | If any one of these steps fails or operates incorrectly, sample from one cup may spill into another, leading to cross-contamination, or the probes may miss the sample altogether and crash. |
| | These extra move steps, especially with a heavy tray full of samples, add to wear and tear on the carousel sampler. |
| Man-Tech AutoMax™ robotic samplers allow the entire travel area to be used for sample positions, allowing large sample capacities. It is very simple to ensure that travel is over previously analyzed samples or between sample rows, eliminating cross-contamination. | Carousel autosamplers require concentric, side-by-side rows of samples to increase capacity, requiring careful programming to ensure travel of probes does not occur over un-analyzed samples. |
| When a value is determined for the number of sample positions versus footprint, the AutoMax [™] samplers offer the best value for laboratories. | Also, the concentric rows contain different numbers of samples as the circle diameter gets smaller approaching the center. This is more difficult to use compared to an X,Y rack with an identical number of samples per row. |
| An X,Y rack with an identical number of samples per row, is logical and easier to use on a daily basis. | |
| Man-Tech AutoMax™ samplers enable simple definition of rack positions for calibrants, QC, standards, etc. as well as easy addition of rush/priority samples. Travel to and from these sites will be over previously analyzed samples or | Some carousel autosamplers may allow for these set positions, but in some cases it will require travel over un-analyzed samples, leading to cross-contamination. |
| between rows, thereby eliminating any potential for cross-contamination. | These extra movements also add to the wear and tear on the autosampler. |



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