

# Automated Samplers



# YOUR SAMPLE, OUR SOLUTION

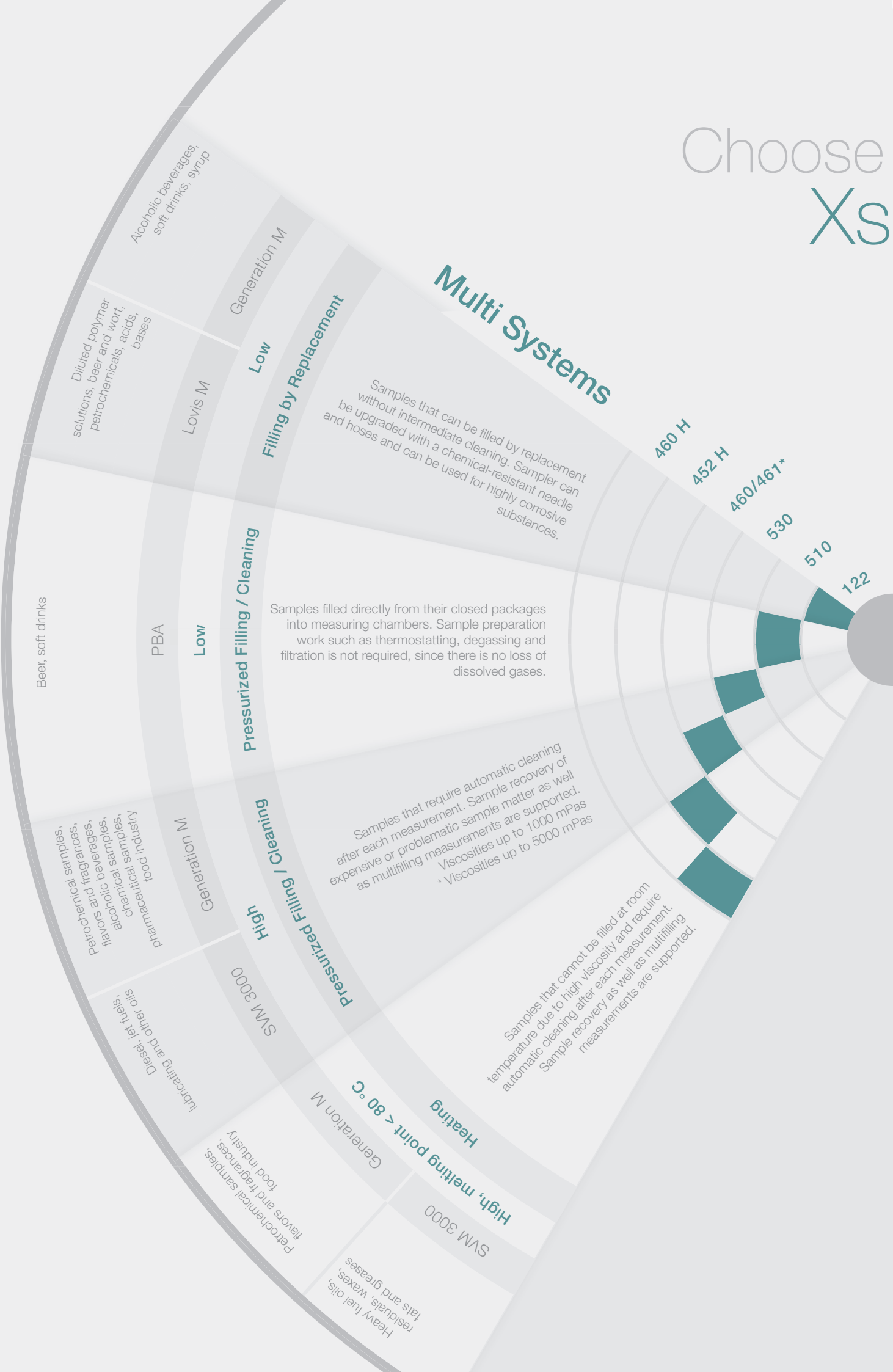
Anton Paar's Xsample series is a big family now – offering you more automation options than you will find anywhere else.

The many different Xsample filling and rinsing units are combined with a wide variety of Anton Paar density meters, viscometers, refractometers and beverage analysis systems to provide the exact automation workflow you need.

From low to high viscosities, from corrosive samples to dissolved gases, from single measurements to high-throughput solutions for large quantities of samples per day – **Anton Paar has the experience to say:** We've been there. We've done that. We know how to automate it for you.

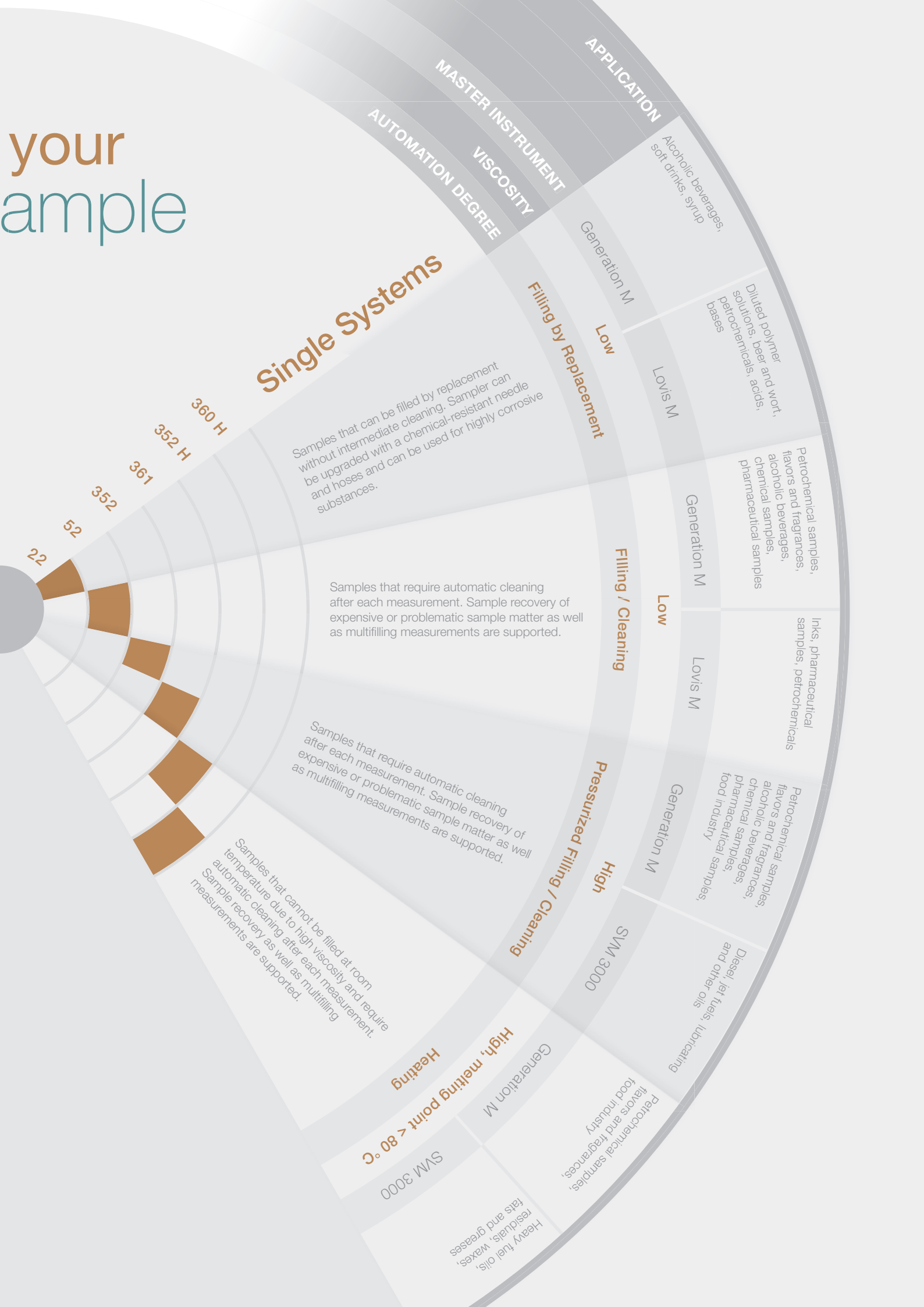
**The Xsample autosamplers take care of your sample and deliver reliable results in a minimum of time.**

# Choose Xs



your  
ample

## Single Systems



22

52

352

361

352 H

360 H



Variety of Anton Paar measuring instruments

Safety shield to protect the workplace

Up to three cleaning solvents to handle a wide variety of samples

Inside and outside needle washing to prevent contamination

Optional bar code reader for flawless workflows

71-position magazine: easily exchanged with one hand





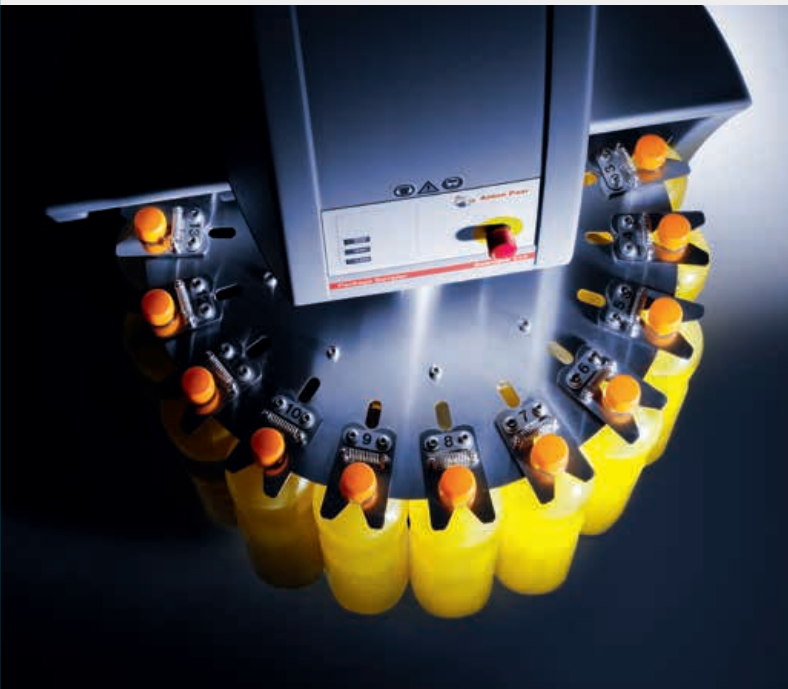
Perfect results with automatic cleaning and needle washing:

## Xsample 530

The Xsample 530 sample changer for all DMA Generation M instruments and Lovis M/ME viscometers handles a wide range of liquid viscosities. The system's adaptive filling power is controlled so that all samples from plain water to highly viscous oils (of up to 36,000 mPas) are filled in a minimum of time. Its fully automatic filling, rinsing and drying ensures perfect results without any sample cross-contamination. The 71-position magazine for unattended operation can be exchanged with one hand to ensure easy handling and filling.

With up to three cleaning liquids, Xsample 530 is ready to measure a great diversity of samples in one run. Its robustness is ensured by no compromises regarding mechanical components as well as a superior resistance to chemicals for increased uptime of the system and low maintenance costs.





Filling from different package types:

### Xsample 510

The Xsample 510 Package Sampler enables the fully automatic filling and cleaning of Anton Paar's modular PBA measuring systems. Whether from glass bottles, PET bottles or cans – Xsample 510 fills your samples directly from their closed packages.

Physically degassing the samples is not necessary: They are filled into the system under overpressure to prevent the loss of CO<sub>2</sub>. The CO<sub>2</sub> concentration is measured and the resulting CO<sub>2</sub> value is used to correct the density reading accordingly in order to get extremely reliable beverage key parameters like sugar or extract.

High pressure, high performance:

### Xsample 461

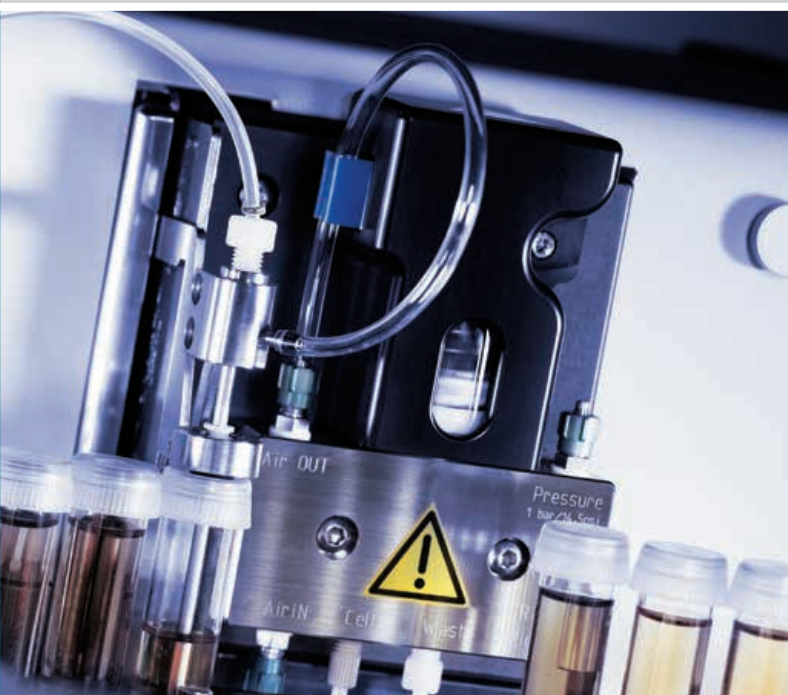
The Xsample 461 sample changer with the Xpress technology provides robust and fully automatic sample handling for highly viscous samples in combination with a Stabinger Viscometer™ SVM 3000. The Xpress technology employs hydraulic pressure for sample filling, thus avoiding undesirable suction. The speed-driven sample handling ensures fast and reliable filling times regardless of samples' viscosities. The fully automatic cleaning and drying guarantees perfect measuring results and prevents any sample cross-contamination.

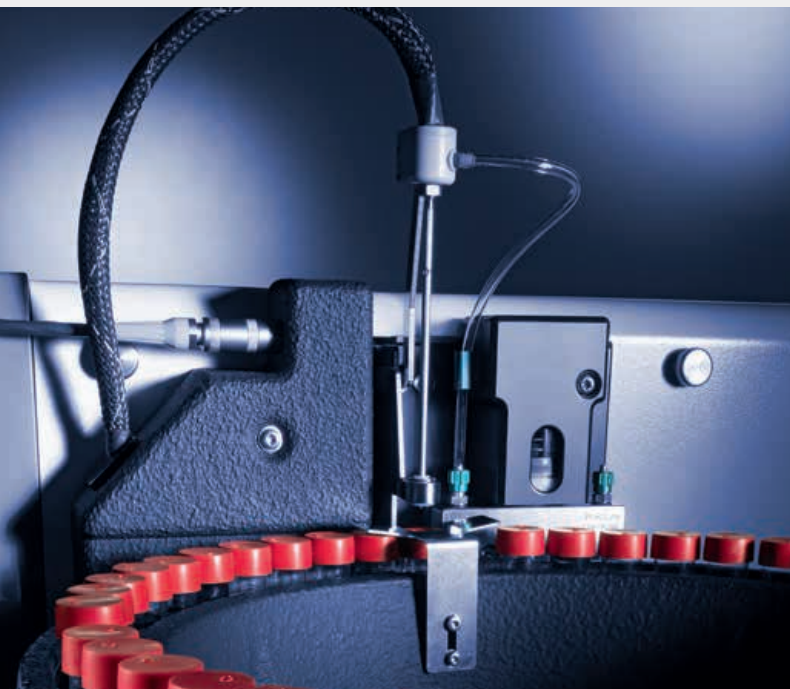


Robust technology for high viscosities:

### Xsample 460

The fully automatic Xsample 460 sample changer is a specially designed filling system for the Stabinger Viscometer™ SVM 3000 which fills viscous samples into the system using overpressure. After the measurement, fully automatic cleaning and drying guarantee perfect measuring results. The sample name and measuring method are recorded in a table before the measurement and are automatically assigned to each sample.





**No limits with high viscosities:**

### Xsample 460 H

The heated Xsample 460 H sample changer for the Stabinger Viscometer™ SVM 3000 provides robust and fully automatic sample processing, especially for samples which cannot be filled at room temperature. The system automatically handles samples with melting points up to 80 °C providing faster measuring results for highly viscous samples or samples solid at room temperature.

**Hot, quick and highly viscous:**

### Xsample 452 H

The electrically heated Xsample 452 H magazine for DMA M heats highly viscous or even solid samples like waxes up to 80 °C in order to ensure a quick and easy filling of the measuring instrument – you no longer need to handle hot syringes. After the measurement, the heated sample changer recovers the sample and cleans the system fully automatically. Sample handling is very easy since the magazine, needle, sensors and hoses are electrically preheated to the set temperature – no water bath is required.



**Easy sample handling:**

### Xsample 122

The Xsample 122 sample changer automatically fills samples into DMA Generation M density meters, Lovis M/ME or Alcolyzer M via a peristaltic pump. The robust and simple filling technology by sample displacement without rinsing and drying saves valuable time for applications where enough sample volume is available and sample recovery is not necessary. Flexible method assignments as well as prioritized measurements help alleviate your daily work. Multiparameter measurements in direct succession are possible without the need for an operator.





**Robust and space saving:**

## Xsample 22

The simply installed, versatile Xsample 22 sample filling unit saves space and is easy to use with all DMA Generation M, Lovis M/ME and Alcolyzer M instruments. The sample filling via peristaltic pump ensures robustness and high filling speed for samples with low viscosities. At the press of a button Xsample 22 fills the sample into the measuring cell or cells. The flexible speed of the peristaltic pump ensures optimized filling. Xsample 22 is ideal for beverages and, combined with the chemical kit, for chemical or pharmaceutical applications where a sufficient sample amount is available.



**Strong with aggressive samples:**

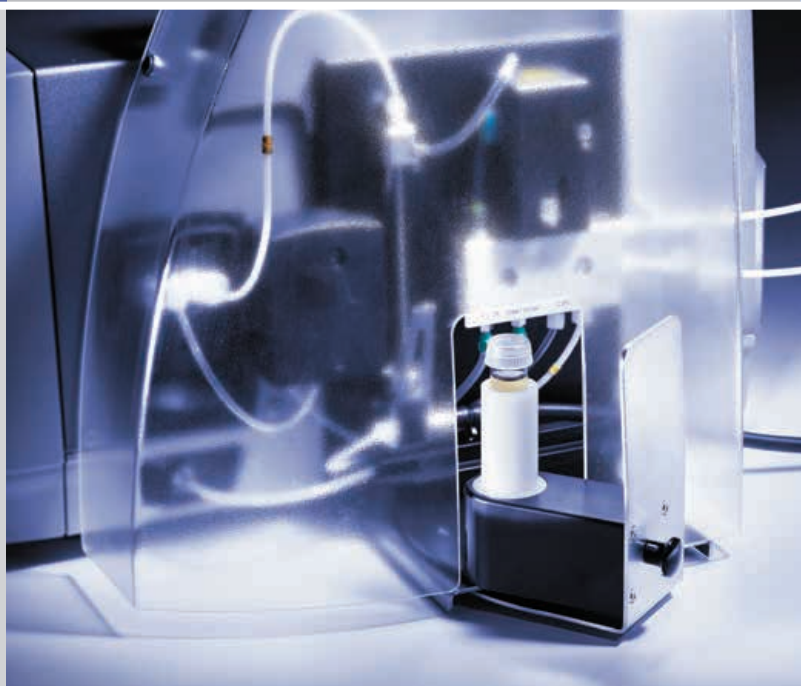
### Xsample 52

The Xsample 52 sample handling unit is highly resistant to aggressive samples and can be used for all DMA Generation M instruments and Lovis M/ME viscometers. It is perfectly suitable for measuring samples with widely different properties in direct succession. Once measured, the sample is drained and the system is automatically cleaned with up to two rinsing agents and dried, so that it is perfectly prepared for the next sample.

**For the viscous and valuable:**

### Xsample 352

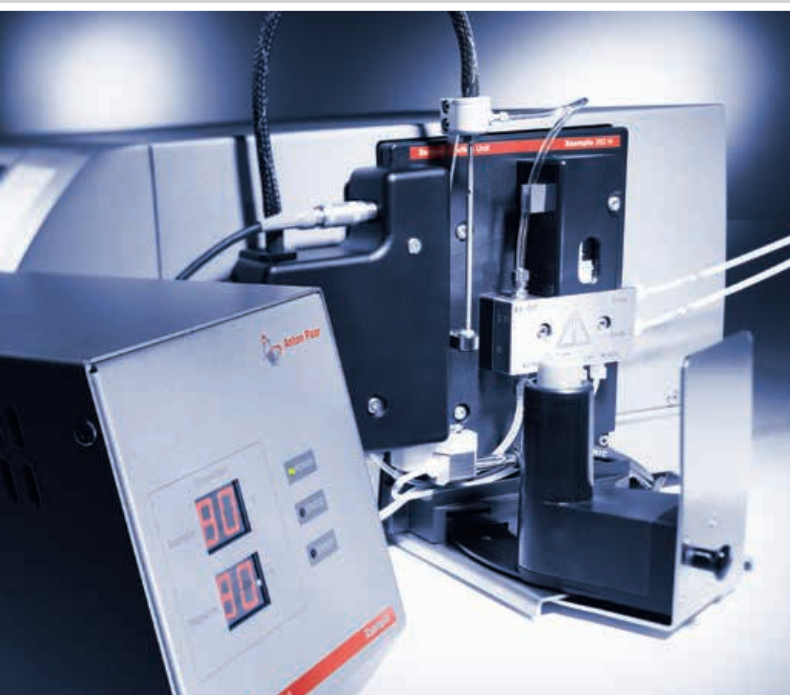
Xsample 352 is the best option for precisely filling highly viscous petrochemical samples or highly volatile samples like alcoholic solutions into measuring cells. The system successfully handles sample viscosities up to 35,000 mPas and is safe against sample evaporation or contamination. Xsample 352 also takes care of sample recovery, e.g. of expensive or problematic sample matter for all DMA Generation M density meters and Lovis M/ME viscometers. The filling and rinsing system achieves an optimal cleaning performance using a minimum of cleaning liquids.



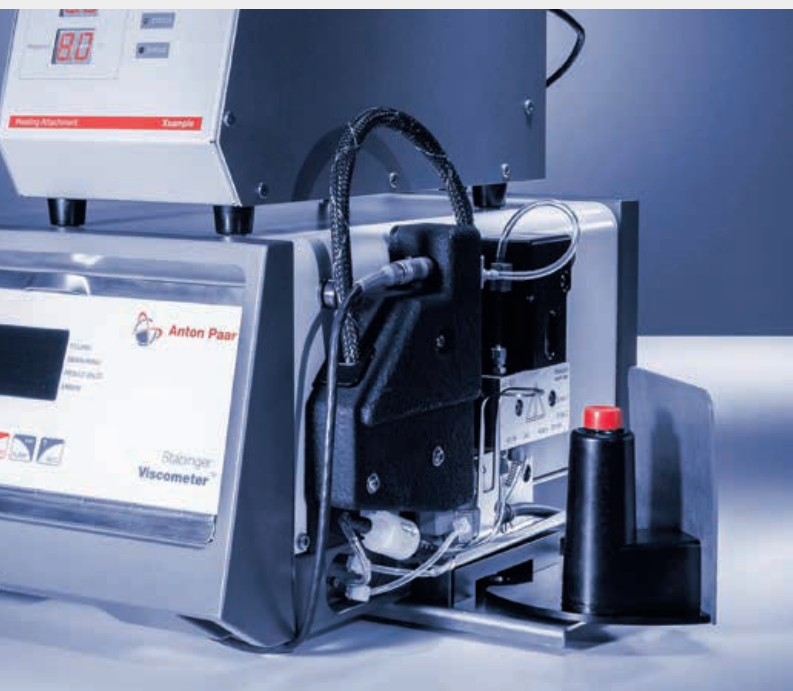
**Single samples heated quickly:**

### Xsample 352 H

The Xsample 352 H heated filling and rinsing unit is used to heat and precisely fill highly viscous single samples in the petrochemical and food industries for all DMA Generation M instruments. The filling and rinsing unit saves you time and makes sample handling safe and easy. By heating, the filling time of viscous or wax-like samples is significantly reduced and you no longer need to handle hot syringes.







Taking work off your hands:

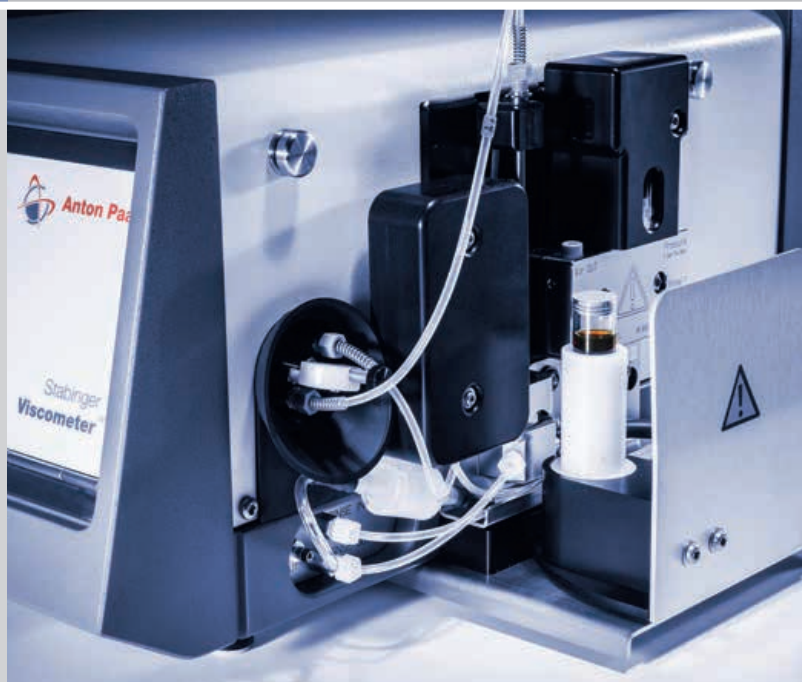
### Xsample 360 H

The Xsample 360H heated filling and rinsing unit is used to heat and precisely fill single petrochemical and food samples with melting points up to 80 °C into a Stabinger Viscometer™ SVM 3000. All parts of the system in contact with the sample are actively electrically heated – from the sample magazine, the needle and tubes to the SVM 3000 measuring cells. The automatic filling and rinsing unit saves time, ensures perfect measuring results and easy sample handling – you no longer have to handle hot syringes.

Hydraulic power for viscous samples:

### Xsample 361

The Xsample 361 sample handling unit with the Xpress technology provides robust and fully automatic sample handling for highly viscous samples in combination with a Stabinger Viscometer™ SVM 3000. For sample filling, the Xpress technology employs hydraulic pressure instead of underpressure, leading to perfect results for volatile samples. This speed-driven sample handling ensures fast filling times regardless of your samples' viscosities. Providing fully automatic cleaning and drying, Xsample 361 guarantees perfect measuring results, prevents any sample cross-contamination and is ready to use at any time of the day.



	Xsample 530	Xsample 510	Xsample 461	
Multi Systems	<b>Max. sample viscosity</b>	36,000 mPa.s	Aqueous samples, e.g. beer, soft drinks	5,000 mPa.s
	<b>Max. temperature</b>	-	-	-
	<b>Filling mode</b>	Pressure mode	Pressurized filling from closed beverage packages	Pressure applied on vial cap
	<b>Samples/hour*</b>	9	15	8
	<b>Sample volume</b>	approx. 3 mL (with master instrument DMA M) depending on system configuration	Depending on application and connected modules	5 mL
	<b>Magazine</b>	71/35 positions	18 positions	48/96 positions
	<b>Sample vials/packages</b>	12 mL 45 mL	Cans: 0.25 L, 0.33 L, 0.5 L Glass bottles: 0.33 L, 0.5 L PET bottles: 0.5 L, 1 L, 1.5 L, 2 L, 3 L	12 mL
	<b>Sample recovery</b>	Optional	No	Yes
	<b>Dimensions LxWxH [mm (in)]</b>	370 x 490 x 430 (14.6 x 19.3 x 17) excl. master instrument	900 x 750 x 1200 (35.4 x 29.5 x 47.2) excl. measuring system	440 x 660 x 320 (17.3 x 26 x 12.6) incl. master instrument
	<b>Weight [kg (lbs)]</b>	17 (37.5) excl. master instrument	75 (165.3) incl. master instrument	21/23 (46.3/50.7) incl. master instrument
	<b>Master instruments</b>	DMA 4100/4500/5000 M Lovis 2000 M/ME	Generation M: PBA-B, PBA-S, PBA-SI, PBA-SD Classic: PBA-B, PBA-S, PBA-SI	SVM 3000

	Xsample 22	Xsample 52	
Single Systems	<b>Max. sample viscosity</b>	3,000 mPa.s**	500 mPa.s**
	<b>Max. temperature</b>	-	-
	<b>Filling mode</b>	Peristaltic pump	Piston pump
	<b>Samples/hour*</b>	30	15
	<b>Sample volume</b>	approx. 20 mL	approx. 3 mL to 4 mL
	<b>Magazine</b>	No	No
	<b>Sample vials/packages</b>	-	-
	<b>Sample recovery</b>	No	Yes
	<b>Dimensions LxWxH [mm (in)]</b>	495 x 350 x 231 (19.5 x 13.8 x 9.1) incl. master instrument	495 x 370 x 231 (19.5 x 14.6 x 9.1) incl. master instrument
	<b>Weight [kg (lbs)]</b>	25.7 (56.7) incl. master instrument	26.5 (58.4) incl. master instrument
	<b>Master instruments</b>	DMA M, Soft Drink Analyzer M, DSA 5000 M, Alcolyzer M, Lovis 2000 M/ME	DMA 4100/4500/5000 M, Lovis 2000 M/ME



Xsample 460	Xsample 460 H	Xsample 452 H	Xsample 122
1,000 mPa.s	1,000 mPa.s at 80 °C	15,000 mPa.s at 80 °C**	3,000 mPa.s**
-	80 °C (176 °F)	80 °C (176 °F)	-
Suction/pressure	Suction/pressure	Piston pump and overpressure	Peristaltic pump
4.8	4.8	12	30
5 mL	5 mL	approx. 3 mL	approx. 20 mL
48/96 positions	44 positions	44 positions	24 positions (48/96 optional)
12 mL	12 mL	12 mL	50 mL (12 mL optional)
Yes	Yes	Yes	No
440 x 660 x 320 (17.3 x 26.0 x 12.6) incl. master instrument	440 x 670 x 320 (17.3 x 26.4 x 12.6) incl. master instrument	495 x 740 x 420 (19.5 x 29 x 16.5) incl. master instrument	495 x 710 x 360 (19.5 x 28 x 14.2) incl. master instrument
23 (50.7) incl. master instrument	25/30 (55.1/66.1) incl. master instrument	40 (88.2) incl. master instrument	28.5 (62.8) incl. master instrument
SVM 3000	SVM 3000	DMA 4100/4500/5000 M	DMA M, Soft Drink Analyzer M, DSA 5000 M, AlcoLyzer M, Lovis 2000 M/ME

Xsample 352	Xsample 352 H	Xsample 360 H	Xsample 361
35,000 mPa.s**	15,000 mPa.s at 80 °C**	1,000 mPa.s at 80 °C	5,000 mPa.s
-	80 °C (176 °F)	80 °C (176 °F)	-
Piston pump and overpressure	Piston pump and overpressure	Suction/pressure	Pressure applied on vial cap
12	12	4.8	8
approx. 3 mL	approx. 3 mL	5 mL	5 mL
No	No	44 positions	48/96 positions
12 mL (50 mL optional)	12 mL glass vials	12 mL	12 mL
Yes	Yes	Yes	Yes
495 x 520 x 360 (19.5 x 20.5 x 14.2) incl. master instrument	495 x 450 x 420 (19.5 x 17.7 x 16.5) incl. master instrument	440 x 380 x 320 (17.3 x 15.0 x 12.6) incl. master instrument	440 x 380 x 320 mm (17.3 x 15.0 x 12.6) incl. master instrument
30.1 (66.4) incl. master instrument	34.6 (76.3) incl. master instrument	25/30 (55.1/66.1) incl. master instrument	21/23 (46.3/ 50.7) incl. master instrument
DMA 4100/4500/5000 M, Lovis 2000 M/ME	DMA 4100/4500/5000 M	SVM 3000	SVM 3000

\*depending on application \*\*typical values, depending on sample type and temperature