

// XPREP & // TUSCAN

Fully automated AOX/TOX column preparation and introduction.

TE Instruments has developed a total solution for the AOX/TOX column method. Due to fully automated column preparation and introduction, the analysis runs practically unattended. Combining the **XPREP-A** series (preparation) together with the **TUSCAN** (introduction), makes up a high throughput system at an attractive price/performance ratio.

While the analysis is running, empty columns can be removed and fresh pretreated columns may be placed again. Simply add new samples to the sample list. The data, generated by TEIS software, is reliable and accurate.

Running the analysis, practically unattended, has become the new reality. Up to 42 columns can be loaded into the **TUSCAN** column auto sampler. A full run will take approximately 6-7 hours. While the **XPLORER** is analyzing, fresh

columns can be prepared with the **XPREP-A6** again. This takes only 45 minutes for 12 columns, and provides the user enough time to refill the column auto sampler before the next run. Another 42 columns will be analyzed!

The fastest column sample preparation system available in today's market!

For high demanding laboratories, TE Instruments offer the **XPREP-A12**. With the **XPREP-A12** a laboratory can double its sample pre-treatment capacity allowing an even higher sample throughput. This column pre-treatment system is capable of producing enough columns to feed two combustion analyzers on a 24/7 basis.



// XPREP-A6 & A12

The next generation high throughput sample preparation system

TE Instruments has developed a fully automated, stand-alone AOX/TOX column sample preparation system, which easily keeps up with your demand. Now, 12 columns (**XPREP-A6**) or 24 columns (**XPREP-A12**) are ready for analysis on the **XPLORER** within 45 minutes. Just place them into the **TUSCAN** column auto sampler or the quartz cups of the **NEWTON** auto sampler and press start.

It is that easy!

Simple & Robust

The new **XPREP-A6** & **A12** have the ability to automatically run 100 mL samples over the AOX/TOX columns at controlled sample flow of 3 mL/min. Once the water sample has passed through the columns a wash cycle automatically starts, which removes the inorganic load from the surface of the activated carbon. The surplus water and wash solution are collected in a central reservoir, which can be connected to a continuous drainage system or simply emptied when it is full. The **XPREP-A12** version has 2 peristaltic pumps. Those pumps are equipped with 6 channels each and are individually controllable in speed.

Principle of operation

100 mL Sample is drawn from the sample bottle using a 100 mL syringe. The syringe is placed on the **XPREP-A6** or **XPREP-A12** at the assigned position. After starting the instrument, the peristaltic pump draws the sample liquid by vacuum from the syringe and pulls it across the AOX columns at a rate of 3 mL/min. Once all samples have passed the columns, the pump pulls 25 mL wash solution over each of the columns. This removes the inorganic load from the activated carbon. The process is fully controlled by the sample preparation system.

Two basic models configurable

There are 2 basic models to choose from. The **XPREP-A12** comes with 2 pumps and the **XPREP-A6** comes as a single pump configuration. The **A12** version supports 12 sample containers and column positions and the **A6** offers space for 6 positions.

In those configurations, they run 12 or 6 paired columns in full automatic mode, simultaneously. Adapters are available for different column sizes which makes the **XPREP** compatible with all sorts of AOX columns.

A true stand-alone!

Fast, Faster, Fastest how productive do you want to be?

Since all channels operate simultaneously, the system has some advantages. There is no other AOX column prep system able to beat these numbers. For most AOX coulometric instruments, the **XPREP-A12** keeps the analyzer busy for the next 24 hours.

Let's assume that the average analysis time for sample combustion and titration takes 10 minutes from sample to sample (72 samples = 144 columns = 1440 minutes = 24 hours).

6 Runs with the **XPREP-A12** only take about 270 minutes, which means that the sample preparation, for 24 hours, can simply take place during normal office hours.

Software controlled

Embedded software controls the **XPREP-A** series. Each individual pump can be set differently. TEIS software makes it possible to create a sample list, to memorize which sample in the **TUSCAN** is allocated to which position in the sample preparation system. Smooth interaction between the embedded software of the sample preparation system and the **XPLORER**.

Column auto sampler

TUSCAN

Direct injection:

maximum reduction of contamination

Installation takes 10 seconds!

Full control over the
combustion speed

Custom methods

// TUSCAN

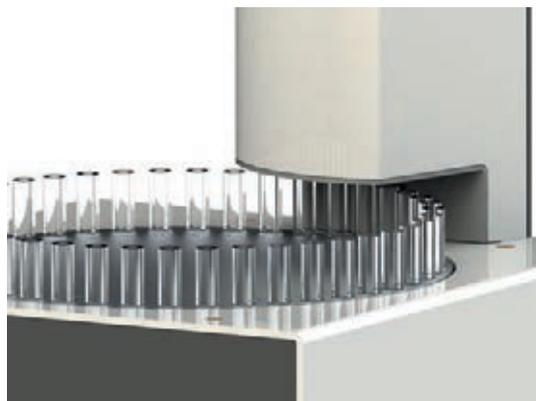
Auto sampler for the direct introduction of AOX column content into the sample boat.

The **TUSCAN** auto sampler delivers the content of an AOX column into the **XPLORER** sample boat, similar to the ECA 1700 for the ECS 1200 (Euroglas™)

Installation takes only 10 seconds!

Installation and repositioning of the sampler takes about 10 seconds, removing about 3 seconds. No calibration requirements at all. Mechanical fixture and power/control connections are fully integrated.

42 Columns for direct injection!



How does it work?

Once the columns are placed in the **TUSCAN**, TEIS software controls the introduction of the samples. Assisted by boat introduction, there is full control over the combustion speed of sample and carbon. The **TUSCAN** is capable of introducing all 42 columns without intervention, no need for cups anymore!

After a complete tray of samples is introduced, little remains are left in the boat. Because of the horizontal position of the furnace tube, there is absolutely no need for removing the combustion tube from the hot furnace. Removing ash and ceramic wool remains by emptying the boat only takes about 1 minute!

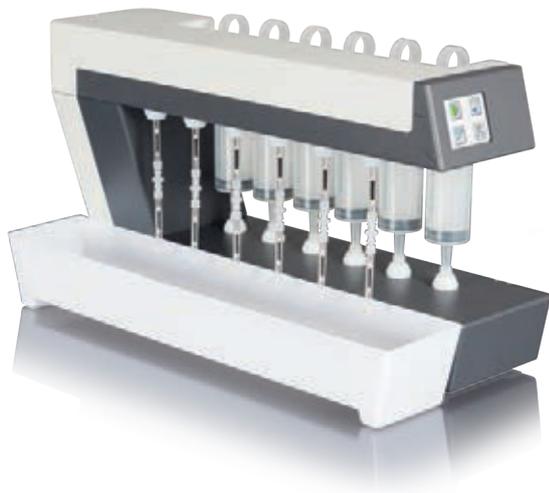


Integrates with software!

TEIS software fully controls all sampler parameters, such as: priority of the sample, one or two columns in one combustion run, auto recognition, initialization procedure, auto adjustment and empty position alert.

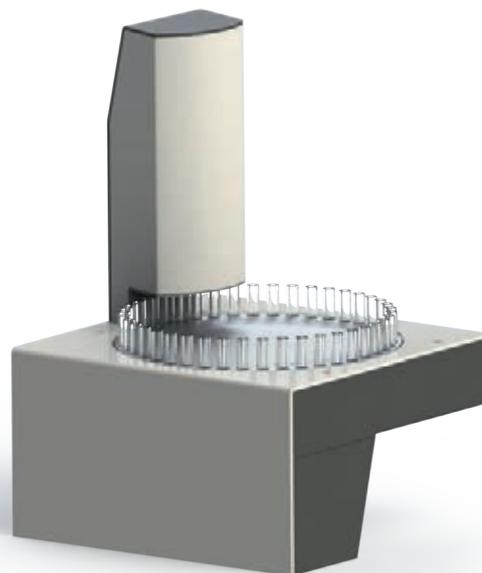
TEIS software provides methods available for ISO, EPA and DIN methods (e.g. ISO 9562, EPA 9020). Customization of desirable methods is possible.





Features XPREP-A6 & A12

- Fastest sample preparation
- Fully automated
- Small footprint
- Stand-alone
- Automatic rinse
- Compatible with all sorts of AOX columns
- Up to 12 channels
- Controlled sample flow
- Columns run simultaneously
- Default methods & norms
- Software controlled



Features TUSCAN

- Easy and fast installation
- Fully automated
- Small footprint
- No need for removing furnace tube
- No need for cups
- Direct injection
- Default & customized methods
- Software controlled
- Integrates with TEIS software

Features XPREP-A6 & A12 along with the TUSCAN

- Total solution
- Fully automated
- Reliable and accurate data
- Smooth interaction
- Ability to feed 2 analyzers
- Runs practically unattended
- Round the clock operation

XPREP-A6 & A12 Specification

Dimensions (W x H x D):	A6:	22 x 28 x 50 cm (8.7 x 11.0 x 19.7 inch)
	A12:	44 x 28 x 50 cm (17.3 x 11.0 x 19.7 inch)
Weight:	A6:	10 kg (22 lbs)
	A12:	20 kg (44 lbs)
Filtration:	Automatic	
Channels:	6 or 12	
Filtration speed:	3 mL/min default, 1 - 6 mL/min custom	
Methods/Protocol:	Column method or Custom defined methods	
Sample volume:	1 - 100 mL	
Wash volume:	25 mL default, 1 - 999 mL custom	
Waste collection:	Central waste collection with drain capability	
Software:	Independent per 6 channels	

TUSCAN Specification

Dimensions (W x H x D):	17 x 25 x 16.3 cm (6.3 x 9.8 x 6.4 inch)
Weight:	1.6 kg (3.5 lbs)
Injection:	Automatic
Column positions:	42
Power requirements:	Supplied by XPLOER analyzer, 24 V.
Max. piston power:	200 Newton
Compatibility:	XPLOER elemental analyzer
Sample Matrix	AOX Methods