



Analytical Instruments  
Raised To Excellence

LABSOLUTIONS

# SER 158

## Automatic Solvent Extractor

Safe Solid-Liquid Extraction  
for a Variety of Applications



Solvent extraction with the SER 158 can be performed for extractable matter determination on a wide range of sample matrices either in food and non-food industries (such as pulp, paper, textile, chemical etc...) and for sample preparation for environmental analysis.

The solid-liquid extraction process removes the soluble components from solids using a liquid solvent.

The SER 158 is able to perform fully automated Randall extractions in complete safety, calculating and archiving the results in the easy-to-use ControlPad.

It works in accordance to the following standards: AOAC, ISO, EPA, APHA, UNI etc...

## SER 158 Solvent AutoExtractor

VELP Scientifica takes another step ahead in raising solvent extraction process to excellence. SER 158 is a fully automated solvent extractor capable of a high sample throughput, offering state-of-the-art technology for a fast, precise and accurate fat determination in complete safety according to the Randall technique.

### SolventXpress™

A unique, smart and hermetically sealed solvent dispensing system assuring no exposure to the solvent for maximum operator safety.



### Minimized Solvent Consumption

Patent pending titanium condensers for unparalleled performance. More than 90% of the solvent used is recovered and stored in the internal recovery tank.



### LED Guidance

The extraction process is easily visualized thanks to the LEDs illuminating the active positions.



### Extractable ControlPad

The ControlPad is able to control up to 4 units independently, and features the immediate display of calculated results on the onboard storage. Integrated yet removable, it can be connected with a balance for a completely new experience.

### SafeEnd™

The fully automated cooling operation prevents the overheating of the soluble matter.

Can be connected to



SER 158 Automatic Solvent Extractor

**GLP** GoodLaboratoryPractice  
AOAC • ISO • EPA • APHA • UNI



Find out more:  
watch our video.

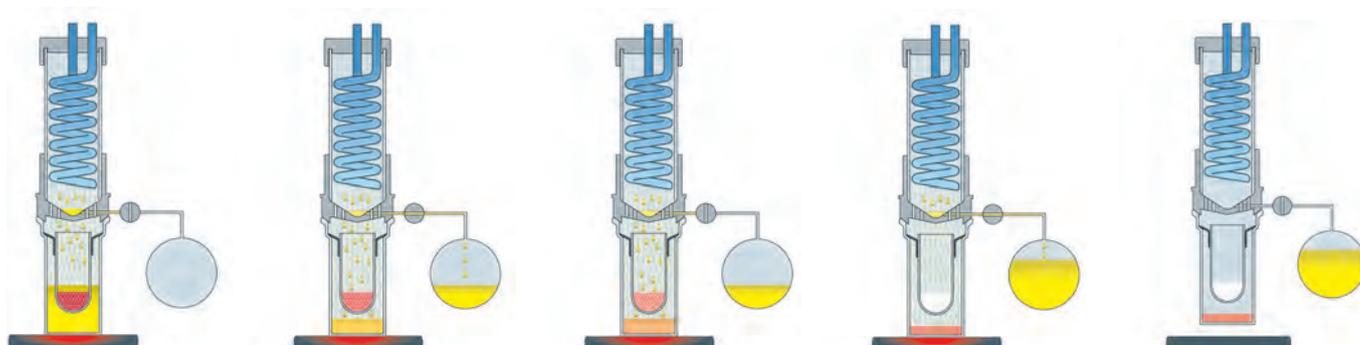


- Time Saving: Fast solvent addition, easy analysis set-up, one-click start function.
- Energy Saving: Heaters are independent, limited water consumption.
- Money Saving: More than 90% solvent recovery and reduced extraction time.
- Space Saving: Extremely compact footprint saves bench space.

TEMS technology saves  
Time, Energy, Money and Space

### Fully Automatic Extraction Process

The analysis consists of up to 5 steps to ensure a complete sample extraction:



#### 1- IMMERSION

The sample is immersed in boiling solvent for an effective defatting action.

#### 2- REMOVING

The level of solvent is automatically lowered below the extraction thimble. Part of the solvent is collected in the recovery tank, the rest continues to flow through the sample.

#### 3- WASHING

The condensed solvent flows over the sample and through the thimble to complete the extraction process.

#### 4- RECOVERY

More than 90% of the solvent is recovered in the internal recovery tank.

#### 5-COOLING

The heaters are switched-off and the glass cups containing the extracts are automatically lifted to prevent extracted matter burning.

## Key benefits: proven performance, reliable results

- **Unattended operations, "Load & Go"**: simply prepare the sample and start the analysis with "one-click"; automatic shutdown feature improves overall throughput for unattended operations 24/7.
- **Extremely versatile and scalable**: the SER 158 is preconfigured to address a variety of applications and includes a complete set of accessories; investment is protected by seamlessly allowing the increase of connected units according to throughput requirements; supports Twisselmann technique.
- **Accurate & precise**: proven performance and reliable results combined with excellent reproducibility. The SER 158 improves the extraction process compared to the traditional Soxhlet (five times faster). Results are precise and in compliance with major standards.
- **Safe and smart**: the automatic solvent dispensing system minimizes the exposure to the solvent ensuring the operator safety. A wide range of accessories guarantee safe sample handling for a large variety of solvent extraction applications.
- **Fast and easy**: the automatic extraction process completes fully unattended 5-step analysis according to the Randall technique in a short time. Easy user interface including full multi-lingual support.
- **Low operating cost**: state-of-the-art technology incorporated into the SER 158 relieves the user of manual operations as well as limiting consumption for a higher productivity.

### Fields of Application

The SER 158 Series is ideal for the determination of crude and total fat content and for sample preparation aimed at the extraction of pollutants and contaminants according to the Randall technique.



Food and feed industry



Environmental industry



Pharmaceutical and Chemical industry

INSTRUMENT	POWER SUPPLY	CODE No
SER 158/3	115/230 V - 50/60 Hz	S303A0390
SER 158/6	115/230 V - 50/60 Hz	S303A0380
SER 158/3 no ControlPad	115/230 V - 50/60 Hz	F303A0390
SER 158/6 no ControlPad	115/230 V - 50/60 Hz	F303A0380

#### SUPPLIED WITH

				
<b>*A00000286</b> ControlPad	<b>A00000298</b> Grey butyl seal SER158 3pcs/box	<b>A00000297</b> Green viton seal SER158 3pcs/box	<b>A00000290</b> Extraction cup Ø 56x120mm 3pcs/box	<b>A00000312</b> Extraction thimbles holder Ø 33mm
				
<b>A00000305</b> Boiling stones, 80 g	<b>A00000295</b> Cellulose thimbles 33x80mm, 25pcs/box	<b>10000280</b> Inlet water tube	<b>10002866</b> Teflon tube Ø 4x6mm	<b>10006054</b> Connection 1/8 NPT - tube 6x4

\* Included only in codes  
S303A0390 and S303A0380

The **SER 158** can be supplied with or without ControlPad.  
All configurations already include a set of accessories that can be used  
for the most common industries and applications.  
Optional accessories are available on request.

OPTIONAL ACCESSORIES	CODE No
White vafion seal SER158 3pcs/box	A00000288
Extraction cup Ø 48x120mm 3pcs/box	A00000303
Extraction cup Ø 65x120mm 3pcs/box	A00000302
Extraction thimbles holder Ø 25mm	A00000291
Extraction thimbles holder Ø 40mm	A00000292
Cellulose thimbles 25x80mm, 25pcs/box	A00000294
Cellulose thimbles 40x80mm, 25pcs/box	A00000296
Glass fiber thimbles 25x80mm, 25pcs/box	A00000314
Glass fiber thimbles 33x80mm, 25pcs/box	A00000313
Thimble weighing cup	A00000310
Thimbles stand 6 places	A00000311
Handling device extraction cups SER158/6	A00000304
Crucible holder HU 6 for SER158	A00000293
Complete Glass bottle solvent collection	A00000301
Inlet Connection 1/4NPT-tube Ø 4,3÷4,5mm	A00000299
Inlet Connection 1/4NPT-tube Ø 4,8÷5mm	A00000300
Slave connection cable	A00000287
Adapter USB-RS232	A00000195
PC Connection cable	A00000289
Extension lead 2m for ControlPad	A00000315
IQ/OQ SER158	A00000306



#### TECHNICAL SPECIFICATIONS

	SER 158/3	SER 158/6
Positions:	3-positions	6-positions
Max. Capacity:	21 samples/day/unit	42 samples/day/unit
Scalability:	12-pos. (up to 4 units)	24-pos. (up to 4 units)
Display:		7" color touch screen - extractable ControlPad
Solvents Accepted:		Capable of being used with the majority of solvents
Solvent Recovery:		> 90%
Automation:		Immersion, Removing, Washing, Recovery, Cooling
Lighting:		LED show 3/6 active positions
Heating Element:		Glass ceramic - 3/6 positions independent switch on/off
Sample Size:		0.5 to 15 g in 33x80 mm thimbles (generally 2-3 g)
Seals:		Viton, Butyl, and Vafion
Condensers:		Titanium (VELP Patent Pending)
Interfaces:		3 x USB (balance, mouse, USB stick), Ethernet (Pc)
Result Calculation:		Automatic, archived on the ControlPad
Water Consumption:		From 1.0 l/min
Dimensions (WxHxD):	358x546x450 mm - 14x21,5x17,7 inch	546x546x450 mm - 21,5x21,5x17,7 inch
Dimensions with ControlPad	358x546x570 mm - 14x21,5x22,4 inch	546x546x570 mm - 21,5x21,5x22,4 inch
Weight (SER 158/ControlPad):	Kg 29 / 1 - 64 / 2,2 lb.	Kg 36 / 1 - 80,3 / 2,2 lb.
Power Supply:	115/230- 50/60 V-Hz	115/230- 50/60 V-Hz
Power Consumption:	630/850 W	630/850 W

Authorized Distributor:



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VELP reserves the right to make technical alteration  
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