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.

GLP - Good Laboratory Practice

AOAC • ISO • EPA • APHA • UNI
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 continue 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 Twisselman 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
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.

### INSTRUMENT | POWER SUPPLY | CODE No
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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
- *A00000286 ControlPad
- Grey butyl seal SER158 3pcs/box
- Green viton seal SER158 3pcs/box
- Extraction cup Ø 56x120mm 3pcs/box
- Extraction thimbles Ø 33mm 24pcs/box
- Inlet water tube Ø 4x6mm 3pcs/box
- Teflon tube Ø 4x6mm 3pcs/box
- Connection 1/8 NPT - tube 6x4 3pcs/box
- Boiling stones, 80 g
- Cellulose thimbles 33x80mm, 25pcs/box
- Extraction thimbles holder Ø 40mm 24pcs/box
- Thimble weighing cup 24pcs/box
- Viton, Butyl, and Teflon 24pcs/box
- Complete Glass bottle solvent collection 24pcs/box
- Slave connection cable 24pcs/box
- Adapter USB-RS232 24pcs/box
- PC Connection cable 24pcs/box
- Extension lead 2m for ControlPad 24pcs/box
- IQ/OQ SER158

### TECHNICAL SPECIFICATIONS
- **SER 158/3**
  - Positions: 3-positions
  - Max. Capacity: 21 samples/day/unit
  - Scalability: 12-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 shows 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 Teflon
  - 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
  - Dimensions with ControlPad: 358x546x570 mm - 14x21,5x22,4 inch
  - Weight (SER 158/controlPad): Kg 29.1 - 64.2
  - Power Supply: 115/230- 50/60 V- Hz
  - Power Consumption: 630/850 W

- **SER 158/6**
  - Positions: 6-positions
  - Max. Capacity: 42 samples/day/unit
  - Scalability: 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 shows 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 Teflon
  - 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): 546x546x450 mm - 21,5x21,5x17,7 inch
  - Dimensions with ControlPad: 546x546x570 mm - 21,5x21,5x22,4 inch
  - Weight (SER 158/controlPad): Kg 46.7 - 100.3
  - Power Supply: 115/230- 50/60 V- Hz
  - Power Consumption: 630/850 W