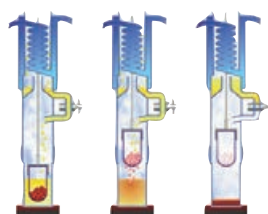


SER 148 SOLVENT EXTRACTOR

The **SER 148/3** and **SER 148/6** can be used to separate a substance or a group of elements (e.g. fat) from solid and semi-solid samples according to the **Randall technique** (consisting of Immersion, Washing and solvent Recovery).

The SER 148 Series is a semi-automatic solution with no compromises on **operator safety (IP55)** and **solvent consumption** also guaranteeing a **limited cost per analysis**.

Robust design and large install base make the SER 148 Series the reliable choice for any laboratory aiming at reducing the time per analysis compared to the traditional Soxhlet method. As for the automatic version, the main field of application is the determination of the content of soluble products such as fats, detergents, plasticizers and pesticides in food, animal feeds, detergents, rubber and plastic formulas, pharmaceutical products, soil.



RANDALL TECHNIQUE

The first phase of extraction is performed by immersing a sample - containing thimble in boiling solvent followed by a washing with cold refluxing solvent. The fast solubilization achieved by the hot solvent results in a sharp reduction of extraction time.

CONSUMABLES

CODE No

Extraction thimbles 33x80 mm, 25 pcs/box **A00000295**



SUPPLIED WITH

CODE No

Extraction Cups SER 148/3	A00001141
Extraction Cups SER 148/6	A00000142
Extraction Thimbles 33X80, 25pcs/box	A00000295
Inlet Tube	10000280
Heat Shield SER 148/3	40000210
Heat Shield SER 148/6	40000220
Viton seal SER 148 3pcs/box	A00000307
Butyl seal SER 148 3pcs/box	A00000308

OPTIONAL ACCESSORIES

CODE No

Printer	A00001009
Serial cable	A00000011
Thimble weighing cup	A00001146
Vafion seal SER 148 3pcs/box	A00000061
IQ/OQ SER 148 Manual	A00000073
Handling device for extraction cup (for SER 148/6)	A00001145
Pincer for weighing cups (for SER 148/6)	A00001147
Thimbles stand (6 places)	A00001149
Extraction thimbles holder	A00001142
Crucible holder HU6 for SER148	A00000309
Glass fiber thimbles 33x80, 25pcs/box	A00000313
Oat meal, 30g	A00000318

INSTRUMENT

POWER SUPPLY

CODE No

SER 148/3	230 V / 50-60 Hz	F30300240
SER 148/3	115 V / 50-60 Hz	F30310240
SER 148/6	230 V / 50-60 Hz	F30300242
SER 148/6	115 V / 50-60 Hz	F30310242

SER 148/6



SER 148/3

GENERAL FEATURES AND PERFORMANCE

CONSTRUCTION MATERIAL	Epoxy painted stainless steel structure
MAX VOLUME EXTRACTION CUP	150 ml
DISPLAY	Working temperature / settable parameters
WORKING TEMPERATURE	From 100 to 260 °C
IMMERSION, WASHING & RECOVERY TIME	From 0 to 999 minutes
SAMPLE QUANTITY	From 0.5 to 15 g (generally 2-3 g)
SOLVENT RECOVERY	From 50 to 75%
REPRODUCIBILITY (RSD)	≤ 1%
INTERFACE	RS232
POWER	500 W (SER 148/3) or 950 W (SER 148/6)
DIMENSIONS (WxHxD)	480x620x390 mm (18.9x24.4x15.4 in) (SER 148/3) 700x620x390 mm (27.6x24.4x15.4 in) (SER 148/6)
WEIGHT	30 Kg (66 lb) (SER 148/3) 40 Kg (88 lb) (SER 148/6)

SER 158 SOLVENT AUTOEXTRACTOR



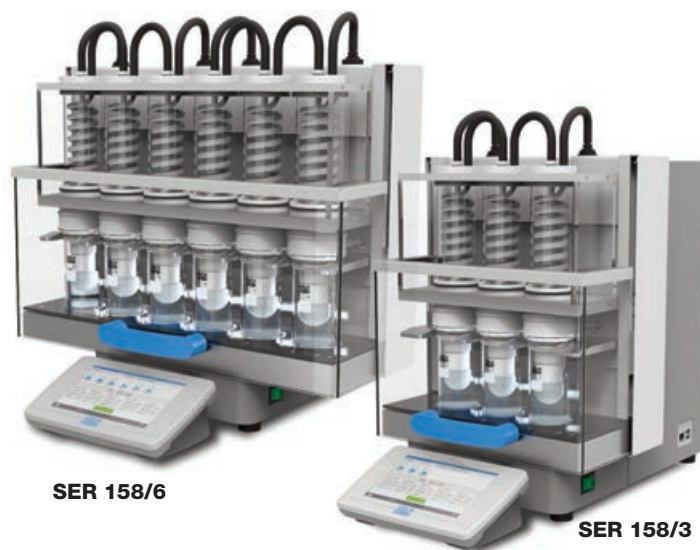
The SER 158 is a fully automated solvent extractor offering state-of-the-art technology, precision and smart data management. The operator has to simply prepare the sample and start the analysis with one click, Load&go. The automatic shutdown feature permits unattended operations 24/7.

The innovative **ControlPad** is able to control up to 4 SER 158 units independently and features the immediate display of results calculation on the on-board storage.

Unparalleled performance are ensured by the **titanium condensers** (patent pending) and by a vast set of sensors. More than 90% of the solvent used is recovered and stored on the internal recovery tank. The SER 158 units are equipped with LED indicating the active position during the extraction steps.

VELP Scientifica guarantees total safety to the operators thanks to **SolventXpress™** the hermetically sealed solvent dispensing system ensuring no exposure to the solvent and to **SafeEnd™** the automatic cooling technology that lifts the extract not permitting the overheating.

The SER 158 incorporates **TEMS™** technology for major savings in **Time, Energy, Money and Space** pursuing VELP's contribution to environmental protection.



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

cNemkoUS certified

TECHNICAL SPECIFICATIONS

POSITIONS	3-positions (SER158/3) or 6-positions (SER158/6)
MAX. CAPACITY	21 samples/day/unit (SER158/3) or 42 samples/day/unit (SER158/6)
SCALABILITY	12-pos. (up to 4 units) (SER158/3) or 24-pos. (up to 4 units) (SER158/6)
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 Vaflon
CONDENSERS	Titanium (VELP Patent Pending)
INTERFACES	3 x USB (balance, mouse, USB stick), Ethernet (Pc)
RESULT CALCULATION	Automatic, archived on ControlPad
WATER CONSUMPTION	From 1.0 l/min
DIMENSIONS (WXHXD)	358x546x450 mm (14x21,5x17,7 inch) (SER158/3) 546x546x450 mm (21,5x21,5x17,7 inch) (SER158/6)
DIMENSIONS WITH CONTROLPAD	358x546x570 mm (14x21,5x22,4 inch) (SER158/3) 546x546x570 mm (21,5x21,5x22,4 inch) (SER158/6)
WEIGHT (SER 158/CONTROLPAD)	Kg 29 / 1 (64 / 2,2 lb.) (SER158/3) Kg 36 / 1 (80,3 / 2,2 lb.) (SER158/6)
POWER SUPPLY	115/230– 50/60 V-Hz
POWER CONSUMPTION	630/850 W
MEASUREMENT RANGE	0.1-100%

SUPPLIED WITH	CODE No
ControlPad*	A00000286
Grey butyl seal 3pcs/box	A00000298
Green viton seal 3pcs/box	A00000297
Extraction cup Ø 56x120mm 3pcs/box STD	A00000290
Extraction thimbles holder Ø 33mm	A00000312
Boiling stones, 80g	A00000305
Cellulose thimbles 33x80mm, 25pcs/box	A00000295
Inlet water tube	10000280
Teflon tube Ø 4x6mm	10002866
Connection 1/8 NPT - tube 6x4	10006054

* Included only in codes S303A0390 and S303A0380

OPTIONAL ACCESSORIES	CODE No
White vafon seal SER158 3pcs/box	A00000288
Extraction cup Ø 48x120mm 3pcs/box S	A00000303
Extraction cup Ø 65x120mm 3pcs/box L	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 Connection1/4NPT-tubeØ 4,3-4,5mm	A00000299
Inlet Connection 1/4NPT-tube Ø4,8-5mm	A00000300
Slave connection cable	A00000287
Adapter USB-RS232	A00000195
Extension lead 2m for Control Pad	A00000315
IQ/OQ SER158	A00000306
Oat meal, 30g	A00000318

HU 6 HYDROLYSIS UNIT

The **HU 6** offers the optimum solution for the acid hydrolysis of food and feed samples prior to solvent extraction for total fat analysis.

Very often the samples to be analyzed have a high fat content and need to be prepared for fat extraction.

The HU 6 is a 6-position hydrolysis unit that combines **safety** with **performance, reducing manual handling** to the minimum.

Hydrolysis is carried out with hydrochloric acid for approximately one hour at a temperature of 170 °C. The hydrolyzed sample is then filtered in a glass crucible and washed with warm de-ionized water in order to eliminate the residues of hydrochloric acid.

The sample is now ready to be processed using the SER 148.

The HU 6 is suitable for both acid and basic hydrolysis.

INSTRUMENT	POWER SUPPLY	CODE No
HU 6	230 V / 50-60 Hz	F30300110
HU 6	115 V / 50-60 Hz	F30310110



GENERAL FEATURES AND PERFORMANCE

CONSTRUCTION MATERIAL	Epoxy painted stainless steel structure
NUMBER OF SAMPLES	6 samples
SET TEMPERATURE AND COUNTDOWN	Digital readout
DISPLAY	LCD
PROGRAM LIBRARY	20 programs
LANGUAGES	I, F, UK, E, D, T
TEMPERATURE RANGE	Ambient to 200 °C
TEMPERATURE PRECISION, STABILITY AND HOMOGENEITY	± 0.5 °C
POWER	1350 W
DIMENSIONS (WxHxD)	355x590x450 mm (14.0x23.2x17.7 in)
WEIGHT	14.5 Kg (32.0 lb)

SUPPLIED WITH

	CODE No
Celite, 1 Kg	A00000097
Glass sand, 2 Kg	A00000089
EDPM tube Ø 6.4x11.2 mm	10002412

OPERATING ACCESSORIES

	CODE No
Glassware kit 3 positions for HU 6	A00000085
Crucible holder HU 6 for SER158	A00000293
Crucible holder HU 6 for SER148	A00000309

OPTIONAL ACCESSORIES

	CODE No
Glass crucibles P1, 6 pcs/box	A00000086
Glass crucibles P3, 6 pcs/box	A00000087
Glass bottle for waste collection	A00000088
Test tubes Ø 42x300 mm, 250 ml, 3 pcs/box	A00000144
IQ/OQ Manual	A00000251