

S-EVAP SERIES

Solvent Evaporator Instruments PRODUCT BROCHURE

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Organomation Solvent Evaporators Overview

The S-EVAP-RB and S-EVAP-KD easily evaporate large volumes of solvent out of samples to leave dry or concentrated samples for analysis or further processing.

Organomation's S-EVAP solvent evaporators with solvent collection condense and collect evaporated solvent into individual or central collection flasks. These evaporators come in two configurations: S-EVAP-RB for Round Flasks and S-EVAP-KD Evaporators for Kuderna Danish Flasks. Both products are available with digital or mechanical temperature controls.

The S-EVAP-RB and S-EVAP-KD are each capable of up to 97% solvent recovery.



Organomation instruments are valuable to sample preparation for research and testing with applications in fields such as:

- Environment
- Agriculture
- Food and Beverage
- Medicine
- Quality Assurance
- Forensic Science
- Government
- Academia
- Oil and Grease

HIGH EFFICIENCY

up to 97% solvent recovery

One of the largest downsides to traditional organic extraction procedures is the large volumes of solvent that are evaporated with no procedure for collection and proper disposal. The lack of an efficient solvent recovery process can lead to health and environmental hazards as volatile organic solvents are released into the environment. Organomation's S-EVAP solvent evaporators with solvent collection condense and collect excess solvent into individual or central collection flasks.

S-EVAP-RB

Rotary Solvent Evaporators for Round Flasks

The S-EVAP-RB solvent evaporator for round flasks allows for up to 8 or 10 samples to be concentrated at once.



S-EVAP-KD

Rotary Solvent Evaporators for Kuderna Danish Flasks

The S-EVAP KD combines standard KD evaporation procedures with our unique rotary water bath and manifold, increasing sample throughput and bench space.



S-EVAP-RB 10 Position Digital Solvent Evaporators

The digitally controlled 10 position S-EVAP-RB (Cat# 12090) can evaporate up to 10 samples at once with a capacity of up to 250 ml (Cat# GS2162) at each sample position. Smaller glassware accommodating up to 125 ml (Cat# GS2161) may also be used with the purchase of adapter rings (Cat# XA2286).

Advantages:

- **Solvent recovery:** recover up to 97% of starting solvent volume with individual collection glassware
- **Conserves valuable bench space:** all samples are arranged in a circle
- **Easy sample access:** the instrument rotates allowing all samples to be accessed from the front
- **Fewer connections:** one water supply line in, one drain line out

Standard Features:

- Manifold for holding solvent recovery condensers
- Flow meter and rigid supply tube for condenser water supply
- Condenser water supply/drain manifold connects to a bench cold-water tap, or a refrigerated water chiller for improved control of condenser temperature and water conservation
- Parallel water supply/drain manifolds with quick disconnect tube fittings
- Bath temperature range 30°C - 100°C
- Evaporate solvents with boiling points up to 65°C
- Digital electronic temperature control +/- 0,5°C

Optional Features:

- Intrinsically safe type Z purged bath (Option Code -Z)
- Nitrogen purge manifold (Option Code -N10)



Highlighted Application:

EPA Method 1668: Toxic Polychlorinated Biphenyls by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry

This method is used to analyze water, soil, sediment, sludge, tissue, and other sample matrices by high resolution gas chromatography/high resolution mass spectrometry (HRGC/HRMS) for polychlorinated biphenyls (PCBs). After the samples have been extracted they are concentrated to approximately 10 ml before back extraction is performed. The S-EVAP-RB is capable of holding up to 10 round flasks in a heated water bath at once to concentrate samples, and the round flasks can be attached to a three-ball Snyder column at each position. The S-EVAP-RB is also capable of solvent recovery with an individual or central collection system. The solvent recovery system allows for proper disposal of toxic solvents.

Other Applications:

- EPA Methods 680, 1614, 1656

SPECIFICATIONS

The following Product Specifications table contains detailed technical information for the different models of S-EVAP-RB 10 Position Digital Solvent Evaporators.

Instrument Catalog Number	12090
Application	Round Flasks/Shallow Bath
Number of Sample Positions	10
Individual Solvent Collection	
Overall Dimensions (width x depth x height)	66 x 61 x 76 cm
Glassware 125ml	GS2161
Glassware 250ml	GS2162
Glassware 500ml	N/A
Sample Flask Type	Round w Flat Bottom
Flask Largest Size	250 ml
Condenser Type	Inverted Hopkins
Condenser Size	260 mm 24/40 24/40
Optional Straight Adapter for -N	150 mm 24/40 24/40
Collection Flask Type	Round w Flat Bottom
Collection Flask Size	250 ml
Heating Device Specifications	
Bath Model Number	14165
Inside Dimensions (Diameter x Depth)	40,6 x 11,4 cm
Outside Dimensions (width x depth x height)	61 x 48 x 15 cm
Heaters Total Watts	1400 w
Type of Temperature Controller	Digital Electronic with LED Display
Temperature Control Accuracy	+/- 0,5°C

S-EVAP-RB 8 Position Mechanical Solvent Evaporators

The mechanical thermostat 8 position S-EVAP-RB (Cat# 12060) can evaporate up to 8 samples at once with a capacity of up to 250 ml (Cat# GS2162) at each sample position. Smaller glassware accommodating up to 125 ml (Cat# GS2161) may also be used with the purchase of adapter rings (Cat# XA2286).

Advantages:

- **Solvent recovery:** recover up to 97% of starting solvent volume with individual collection glassware
- **Conserves valuable bench space:** all samples are arranged in a circle
- **Easy sample access:** the instrument rotates allowing all samples to be accessed from the front
- **Fewer connections:** one water supply line in, one drain line out

Standard Features:

- Mechanical thermostat with temperature control $\pm 2^{\circ}\text{C}$
- Manifold for holding solvent recovery condensers
- Flow meter and rigid supply tube for condenser water supply
- Condenser water supply/drain manifold connects to a bench cold-water tap, or a refrigerated water chiller for improved control of condenser temperature and water conservation
- Parallel water supply/drain manifolds with quick disconnect tube fittings
- Bath temperature range $30^{\circ}\text{C} - 100^{\circ}\text{C}$
- Evaporate solvents with boiling points up to 65°C

Optional Features:

- Intrinsically safe type Z purged bath (Option Code -Z)
- Nitrogen purge manifold (Option Code -N)
- Digital electronic temperature control $\pm 0,5^{\circ}\text{C}$ (Option Code -CB)



Highlighted Application:

EPA Method 1662: *Total Extractable Material in Drilling Mud by SDS Extraction and Gravimetry*

This method is designed to determine the oil content of drilling mud by Soxhlet/Dean-Stark (SDS) extraction and gravimetric measurement. However, this is a method-defined measurement that does not discriminate oil from other materials capable of being extracted from the mud. This method is for use in the Environmental Protection Agency's (EPA's) survey and monitoring programs under the Federal Water Pollution Control Act. The samples are concentrated by heating the solvent to boiling where it evaporates and is collected in individual collection flasks in an S-EVAP-RB solvent evaporator for proper disposal while the concentrated sample is collected for analysis.

Other Applications:

- EPA Methods 680, 8151A, 1656

SPECIFICATIONS

The following Product Specifications table contains detailed technical information for the different models of S-EVAP-RB 8 Position Mechanical Solvent Evaporators.

Instrument Catalog Number	12060
Application	Round Flasks/Shallow Bath
Number of Sample Positions	8
Individual Solvent Collection	
Overall Dimensions (width x depth x height)	61 x 56 x 76 cm
Glassware 125ml	GS2161
Glassware 250ml	GS2162
Glassware 500ml	N/A
Sample Flask Type	Round w Flat Bottom
Flask Largest Size	250 ml
Condenser Type	Inverted Hopkins
Condenser Size	260 mm 24/40 24/40
Optional Straight Adapter for -N	150 mm 24/40 24/40
Collection Flask Type	Round w Flat Bottom
Collection Flask Size	250 ml
Heating Device Specifications	
Bath Model Number	10125
Inside Dimensions (Diameter x Depth)	30,5 x 11,4 cm
Outside Dimensions (width x depth x height)	46 x 41 x 18 cm
Heaters Total Watts	1100 w
Type of Temperature Controller	Mechanical Thermostat
Temperature Control Accuracy	+/- 2°C

S-EVAP-KD 10 Position Digital Solvent Evaporators

The digitally controlled 10 position S-EVAP-KD (Cat# 12010) can evaporate up to 10 samples at once with a capacity of up to 250 ml at each sample position. Glassware sets can be purchased for individual solvent collection (Cat# GS2152), or central solvent collection (Cat# GS2152-C with Cat# GS2158-C10).

Advantages:

- **Solvent recovery:** recover up to 97% of starting solvent volume with individual or central solvent collection
- **Conserves valuable bench space:** all samples are arranged in a circle
- **Easy sample access:** the instrument rotates allowing all samples to be accessed from the front
- **Fewer connections:** one water supply line in, one drain line out
- **Protects delicate samples:** Organomation vacuum insulated concentrator tubes keep delicate samples safe
- **Gentle concentration:** water bath is gentler than jacketed concentration tubes in traditional KD set-up



Standard Features:

- Condenser holder assembly for solvent recovery condensers
- Flow meter and rigid supply tube for condenser water supply
- Condenser water supply/drain manifold connects to a bench cold-water tap, or a refrigerated water chiller for improved control of condenser temperature and water conservation
- Parallel water supply/drain manifolds with quick disconnect tube fittings
- Bath temperature range 30°C - 100°C
- Evaporate solvents with boiling points up to 65°C
- Digital electronic temperature control +/- 0,5°C

Optional Features:

- Intrinsically safe type Z purged bath (Option Code -Z)
- Reduced height system, 8,13 cm tall for KD flasks/deep bath

Highlighted Application:

EPA Method 8321B: *Solvent-Extractable Nonvolatile Compounds by High Performance Liquid Chromatography/Thermospray/Mass Spectrometry (HPLC/TS/MS) or Ultraviolet (UV) Detection*

This method describes the determination of disperse azo dyes, organophosphorus compounds, tris(2,3-dibromopropyl) phosphate, chlorinated phenoxyacid compounds and their esters, and carbamates in waste water, ground water, and soil/sediment matrices. After the compounds are extracted from the matrix using the appropriate extraction procedure, each extract is concentrated using a Kuderna-Danish (K-D) macro concentration procedure. The S-EVAP-KD is capable of holding up to ten (10) K-D concentrator set-ups, allowing multiple samples to be concentrated at once. The samples positions are arranged in rotary fashion, which optimizes space and allows each sample to be accessed from the front of the unit. The water bath has a heating range of 30°C-90°C, which allows for the efficient concentration of samples from a variety of extraction solvents.

Other Applications:

- EPA Methods 680, 1614, 1656

SPECIFICATIONS

The following Product Specifications table contains detailed technical information for the different models of S-EVAP-KD 10 Position Digital Solvent Evaporators.

Instrument Catalog Number	12010
Application	Kuderna-Danish Flasks/Deep Bath
Number of Sample Positions	10
Individual Solvent Collection	
Overall Dimensions (width x depth x height)	66 x 61 x 99 cm
Required Glassware	GS2152
Sample Flask Type	Kuderna-Danish, 250 mL
Concentrator Tube	Insulated tip, 10 mL
Snyder Column	3-ball design, 253 mm
Condenser Type	Inverted Hopkins with 24/40 side arm
Collection Flask	Round with flat bottom, 250 mL
Central Solvent Collection	
Overall Dimensions (width x depth x height)	61 x 48 x 99 cm
Required Glassware	GS2152-C GS2158-C10
Sample Flask Type	Kuderna-Danish, 250 ml
Concentrator Tube	Insulated tip, 10 ml
Snyder Column	3-ball design, 253 mm
Condenser Type	Inverted Hopkins with 1/4 in tube fitting
Collection Flask	Central with 10 ports, 4 L
Heating Device Specifications	
Bath Model Number	14169
Heating Medium	Water
Inside Dimensions (Diameter x Depth)	40,6 x 21,6 cm
Outside Dimensions (width x depth x height)	61 x 48 x 25 cm
Heaters Total Watts	1400 w
Bath Temperature Range	30-100°C
Type of Temperature Controller	Digital Electronic with LED Display
Temperature Control Accuracy	+/- 0,5°C

S-EVAP-KD 8 Position Digital Solvent Evaporators

The digitally controlled 8 position S-EVAP-KD (Cat# 12018) can evaporate up to 8 samples at once with a capacity of up to 500 ml at each sample position. Glassware sets can be purchased for individual solvent collection (Cat# GS2153), or central solvent collection (Cat#GS2153-C with Cat# GS2158-C8).

Smaller glassware accommodating up to 250 ml can be purchased for individual solvent collection (Cat# GS2152), or central solvent collection (Cat# GS2152-C with Cat# GS2158-C8). Smaller glassware is accommodated with the use adapter rings (Cat# XA2284).

Advantages:

- **Solvent recovery:** recover up to 97% of starting solvent volume with individual or central solvent collection
- **Conserves valuable bench space:** all samples are arranged in a circle
- **Easy sample access:** the instrument rotates allowing all samples to be accessed from the front
- **Fewer connections:** one water supply line in, one drain line out
- **Protects delicate samples:** Organomation vacuum insulated concentrator tubes keep delicate samples safe
- **Gentle concentration:** water bath is gentler than jacketed concentration tubes in traditional KD set-up

Standard Features:

- Condenser holder assembly for solvent recovery condensers
- Flow meter and rigid supply tube for condenser water supply
- Condenser water supply/drain manifold connects to a bench cold-water tap, or a refrigerated water chiller for improved control of condenser temperature and water conservation
- Parallel water supply/drain manifolds with quick disconnect tube fittings
- Bath temperature range 30°C - 100°C
- Evaporate solvents with boiling points up to 65°C
- Digital electronic temperature control +/- 0,5°C

Optional Features:

- Intrinsically safe type Z purged bath (Option Code -Z)
- Reduced height system, 8,13 cm tall for KD flasks/deep bath



Highlighted Application:

EPA Method 1656: *The Determination of Organo-Halide Pesticides in Municipal and Industrial Wastewater*

This method is used to determine (1) the organo-halide pesticides and polychlorinated biphenyls (PCBs) associated with the Clean Water Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response, Compensation and Liability Act; and (2) other compounds amenable to extraction and analysis by wide-bore capillary column gas chromatography (GC) with halogenspecific detectors. After the compounds are extracted each extract is concentrated using a Kuderna-Danish (K-D) concentration procedure. The solvents boil in the KD flasks and evaporate until they hit the condensers and turn back into a liquid that is collected by either an individual or a central collect vessel in the S-EVAP-KD solvent evaporator.

Other Applications:

- EPA Methods 680, 1614, 8321B

SPECIFICATIONS

The following Product Specifications table contains detailed technical information for the different models of S-EVAP-KD 8 Position Digital Solvent Evaporators.

Instrument Catalog Number	12018
Application	Kuderna-Danish Flasks/Deep Bath
Number of Sample Positions	8
Individual Solvent Collection	
Overall Dimensions (width x depth x height)	66 x 61 x 99 cm
Glassware 125ml	N/A
Glassware 250ml	GS2152
Glassware 500ml	GS2153
Sample Flask Type	Kuderna-Danish 19/22 24/40
Flask Largest Size	500 ml
Concentrator Tube	Insulated Tip 10 ml 19/22
Snyder Column	Three Ball 253 mm 24/40 24/40
Condenser Type	Inverted Hopkins
Condenser Size	260 mm 24/40 24/40
Collection Flask Type	Round w Flat Bottom
Collection Flask Size	500 ml
Central Solvent Collection	
Overall Dimensions (width x depth x height)	61 x 48 x 99 cm
Glassware 250ml	GS2152-C
Glassware 500ml	GS2153-C
Condenser Type	Inverted Hopkins
Condenser Size	260 mm 24/40 6,35 mm Tube Fitting
Central Collection Flask Size	Round 4 L Central
Central Collection Flask Type	8 Port
Central Collection Flask Catalog Number	GS2158-C8
Heating Device Specifications	
Bath Model Number	14169
Inside Dimensions (Diameter x Depth)	40,6 x 21,6 cm
Outside Dimensions (width x depth x height)	61 x 48 x 25 cm
Heaters Total Watts	1400 w
Type of Temperature Controller	Digital Electronic with LED Display
Temperature Control Accuracy	+/- 0,5°C

S-EVAP-KD 8 Position Mechanical Solvent Evaporators

The mechanical thermostat 8 position S-EVAP-KD (Cat# 12027) can evaporate up to 8 samples at once with a capacity of up to 250 ml at each sample position. Glassware sets can be purchased for individual solvent collection (Cat# GS2152), or central solvent collection (Cat# GS2152-C with Cat# GS2156-C8).

Advantages:

- **Solvent recovery:** recover up to 97% of starting solvent volume with individual or central solvent collection
- **Conserves valuable bench space:** all samples are arranged in a circle
- **Easy sample access:** the instrument rotates allowing all samples to be accessed from the front
- **Fewer connections:** one water supply line in, one drain line out
- **Protects delicate samples:** Organomation vacuum insulated concentrator tubes keep delicate samples safe
- **Gentle concentration:** water bath is gentler than jacketed concentration tubes in traditional KD set-up

Standard Features:

- Condenser holder assembly for solvent recovery condensers
- Flow meter and rigid supply tube for condenser water supply
- Condenser water supply/drain manifold connects to a bench cold-water tap, or a refrigerated water chiller for improved control of condenser temperature and water conservation
- Parallel water supply/drain manifolds with quick disconnect tube fittings
- Bath temperature range 30°C - 100°C
- Evaporate solvents with boiling points up to 65°C
- Mechanical thermostat temperature control +/- 2°C

Optional Features:

- Intrinsically safe type Z purged bath (Option Code -Z)
- Reduced height system, 8,13 cm tall for KD flasks/deep bath
- Digital electronic temperature control +/- 0,5°C (Option Code -CB)



Highlighted Application:

EPA Method 1614: *Brominated Diphenyl Ethers in Water Soil, Sediment and Tissue by HRGC/HRMS*

This method is for determination of brominated diphenyl ether (BDE) congeners in water, soil, sediment, biosolids, tissue, and other sample matrices by high resolution gas chromatography combined with high resolution mass spectrometry. The samples are macro-concentrated in an S-EVAP-KD solvent evaporator for analysis and the solvents are collected in either individual flasks or a central collection flask.

Other Applications:

- EPA Methods 680, 8151A, 1656









SPECIFICATIONS

The following Product Specifications table contains detailed technical information for the different models of S-EVAP-KD 8 Position Mechanical Solvent Evaporators.

Instrument Catalog Number	12027
Application	Kuderna-Danish Flasks/Deep Bath
Number of Sample Positions	8
Individual Solvent Collection	
Overall Dimensions (width x depth x height)	61 x 56 x 102 cm
Glassware 125ml	N/A
Glassware 250ml	GS2152
Glassware 500ml	N/A
Sample Flask Type	Kuderna-Danish 19/22 24/40
Flask Largest Size	250 ml
Concentrator Tube	Insulated Tip 10 ml 19/22
Snyder Column	Three Ball 253 mm 24/40 24/40
Condenser Type	Inverted Hopkins
Condenser Size	260 mm 24/40 24/40
Collection Flask Type	Round w Flat Bottom
Collection Flask Size	250 ml
Central Solvent Collection	
Overall Dimensions (width x depth x height)	46 x 41 x 102 cm
Glassware 250ml	GS2152-C
Glassware 500ml	N/A
Condenser Type	Inverted Hopkins
Condenser Size	260 mm 24/40 6,35 mm Tube Fitting
Central Collection Flask Size	Round 2,5 L Central
Central Collection Flask Type	8 Port
Central Collection Flask Catalog Number	GS2156-C8
Heating Device Specifications	
Bath Model Number	10129
Inside Dimensions (Diameter x Depth)	30,5 x 21,6 cm
Outside Dimensions (width x depth x height)	46 x 41 x 28 cm
Heaters Total Watts	1100 w
Type of Temperature Controller	Mechanical Thermostat
Temperature Control Accuracy	+/- 2°C

Accessories and Replacement Parts for S-EVAP Series

Item Description	Picture	
Nitrile (Buna-N) O-ring set for use with S-EVAP and ROT-X-TRACT water manifolds		
1 inner and 1 outer ring		P1332
White silicone tubing for water supply, 6,35 mm inside dia, 9,53 mm outside dia		
3 meters		P2616
7,62 meters		P2613
Stainless steel Bath Covers for unused sample positions		
5,4 cm dia (125 ml flasks)		XA3283
7,6 cm dia (250 ml flasks)		XA2282
9,85 cm dia (500 ml flasks)		XA2283
Thermometer, 15,24 cm long, for analog baths		
100°C		NA1110
Glassware set for individual collection, per position		
250 mL KD flask set		GS2152
500 mL KD flask set		GS2153
Glassware set for central collection, per position		
250 mL KD flask set		GS2152-C
500 mL KD flask set		GS2153-C
Rack to hold KD flasks when not in use, compatible with 250 mL and 500 mL KD flasks, 8 positions, rectangular, 7,62 cm ID of holes		
44,5 x 26,7 x 23,5 cm (lxwxh)		XA2290
Stainless steel adapter ring for use with smaller glassware, per position		
Compatible with 12037, 12018, for 250 mL flasks		XA2284
Compatible with 12027, 12010, for 125 mL flasks		XA2286

Item Description	Picture	
Pressure Reducing Regulator for water supply		
Each		XA0631
Boiling grids, Fluorinated ethylene propylene (FEP)		
set of 100		GA2245
Teflon sleeve for 24/40 ground glass joints		
Each		GA2286-H
Vacuum manifold for solvents with high boiling points. Compatible with individual collection only.		
5 port, for 12037		-V5
8 port, for 12027, 12018		-V8
Side control box for mechanical thermostat models		
Compatible with 12027, 12037		12002
Glassware set for solvent collection, per position		
125 mL RB flask set		GS2161
250 mL RB flask set		GS2162
500 mL RB flask set		GS2163
Nitrogen purge manifold to dry evaporation flasks		
8 port, for 12060, 12008		-N8
10 port, for 12090		-N10
Adapter for gas injection, per position. Necessary if choosing the nitrogen purge option		
Each		P0634
Central collection kit		
5 position, 2,5 L for 12037		P1230
8 position, 2,5 L for 12027		P1230
8 position, 4 L for 12018		P1230
10 position, 4 L for 12010		P1230

Solvent Evaporator Instruments



Our company serves all over Türkiye based in Izmir and Istanbul

High quality laboratory instrumentation from the world's most innovative manufacturers

Elementel is one of the Turkey's leading suppliers of high quality laboratory instrumentation, training and after sales support services. Our comprehensive range of laboratory instrumentation meets the needs of Research, Quality Assurance and Quality Control to a broad range of industries including material testing, tissue culture and epigenetics, pharmaceutical, petrochemical, environmental, agricultural, food and beverage.

Today Elementel has expanded it's product portfolio to include the sales and support of a range of laboratory instrumentation from some of the world's most innovative manufacturers.

Elementel Analitik ve Bio Teknolojik Sistemler San. ve Tic. Ltd. Şti.

Address: Folkart Towers - Adalet Mah. Manas Blv. No: 39/3408, Bayraklı/İZMİR

İstanbul Contact Office: Fatih/İSTANBUL

Tel-Fax: +90 232 472 17 11 • İstanbul: +90 212 529 43 19 • M: bilgi@elementel.com



For more product information and literature, please visit our website: www.elementel.com

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