

# Safely recover vapors after solvent evaporation

The recovery of solvents from samples after evaporation is complete is critical for safety. Without the aid of a trap, solvents would be released into the environment, exposing users to harmful vapors. Thermo Scientific offers two types of vapor recovery systems when using a modular vacuum concentrator system: Thermo Scientific™ Savant™ Refrigerated Vapor Traps and Thermo Scientific™ Savant™ Universal Vacuum Systems.

## Choosing a solvent extraction system

If you are using an oil pump with your vacuum concentrator, a refrigerated vacuum trap will complete your vacuum system. Alternatively a universal vacuum system is ideal if you do not already have a refrigerated vacuum trap or prefer to use an oil-free pump.

## Benefits

### Savant Refrigerated Vacuum Trap

- Reliable, easy-to-use benchtop cold traps for solvent vapor condensation and collection
- Replacement for dry ice/methanol traps and protect high-vacuum rotary vane oil pumps in a vacuum system



Savant Refrigerated Vacuum Trap RVT5105 (front) and Savant Universal Vacuum System UVS450 (rear)

### Savant Universal Vacuum Trap

- Low-maintenance vacuum system offers an alternative to systems based on an oil-filled vacuum pump, which require frequent maintenance and can be damaged by contaminating liquids
- Multipurpose vacuum source and solvent recovery systems combined in a single, integrated unit
- Systems include a refrigerated vapor trap and an oil-free vacuum pump

## Savant Refrigerated Vapor Trap product specifications

	RVT5105	RVT450
Physical properties		
Dimensions (W x D x H)	24 x 24 x 18.3 in (61 x 61 x 47 cm)	14 x 24 x 12 in (35 x 31 x 60 cm)
Weight	150 lb (68 kg)	71 lb (32 kg)
Operational specifications		
Capacity	4 L	4 L
Temperature	-105°C	-50°C
Solvent Types	High boiling point solvents Low boiling solvents (DMSO, DMF)	Aqueous, organic solvents MEOH, ACN
Operational requirements		
Electrical 115 V	50/60Hz	50/60Hz
Electrical 230 V	50/60Hz	50/60Hz
Plug 115 V	NEMA 5-15P	NEMA 5-15P
Plug 230 V	SCHUKO CEE 7-7 (European plug), IEC 60320 C13 (Chinese Plug), B1363W/13A (UK plug)	SCHUKO CEE 7-7 (European plug), IEC 60320 C13 (Chinese Plug), B1363W/13A (UK plug)
Compliance		
North America	UL Listed to US and Canadian requirements. CE marked.	
Included accessories		
Glass Condensation Flask	GFC400	GFC400
Flask Cap	FC400	FC400
Recommended accessories		
Heat Transfer Fluid	CryoCool™ SCC1 Fluid 1L, or CryoCool SCC5 Fluid 5L	CryoCool SCC1 Fluid 1L, or CryoCool SCC5 Fluid 5L



Savant RVT5105 Refrigerated Vapor Trap, Glass Condensation Flask and Flask Cap, disassembled



Savant RVT450 Refrigerated Vapor Trap, Glass Condensation Flask and Flask Cap, assembled



Savant UVS450 Universal Vacuum System



Savant UVS850DDA Universal Vacuum System

### Savant Universal Vacuum System product specifications

	UVS450	UVS850DDA
<b>Physical properties</b>		
Dimensions (W x D x H)	14 x 18 x 24 in (25 x 45 x 60 cm)	14 x 18 x 24 in (25 x 45 x 60 cm)
Weight	113 lb (51 kg)	126 lb (57 kg)
<b>Operational specifications</b>		
Capacity	4 L	4 L
Temperature	-50°C	-50°C
Solvent Types	Aqueous, organic solvents ME OH, ACN	High boiling point solvents using the vapor-net feature; low boiling point solvents
<b>Operational requirements</b>		
Electrical 115 V	50/60Hz	50/60Hz
Electrical 230 V	50/60Hz	50/60Hz
Plug 115 V	NEMA 5-15P	NEMA 5-15P
Plug 230 V	SCHUKO CEE 7-7 (European plug), IEC 60320 C13 (Chinese Plug), B1363W/13A (UK plug)	SCHUKO CEE 7-7 (European plug), IEC 60320 C13 (Chinese Plug), B1363W/13A (UK plug)
<b>Recommended accessories</b>		
Ammonia Neutralizing	Post-trap Assembly ANT100	Ammonia Neutralizing Solution ANS121/4
Heat Transfer Fluid	CryoCool SCC1 Fluid 1L, or CryoCool SCC5 Fluid 5L	CryoCool SCC1 Fluid 1L, or CryoCool SCC5 Fluid 5L

### Savant Pumps for SpeedVac Vacuum Concentrators

Description	Pump Displacement	Cat. No.
Oil-Free FTE/PFA 4-headed Vacuum Pump	30 L/min throughput at 50 Hz	OPF400
Oil-Free Scroll Pump	96.7 L/min throughput at 50 Hz	OPF5C
Oil Vacuum Pump for Freeze Drying	76 L/min throughput at 60 Hz	FDP80
Oil Vacuum Pump for Freeze Drying	195 L/min throughput at 60 Hz	FDP200
Oil Vacuum Pump for Freeze Drying	195 L/min throughput at 60 Hz	VLP195FD
Deep Oil Vacuum Pump for Freeze Drying	116 L/min throughput at 60 Hz; 97 L/min throughput at 50 Hz	VLP120
Deep Oil Vacuum Pump for Freeze Drying	195 L/min throughput at 60 Hz; 162 L/min throughput at 50 Hz	VLP200
Deep Oil Vacuum Pump for Freeze Drying	283 L/min throughput at 60 Hz; 237 L/min throughput at 50 Hz	VLP285
Deep Oil Vacuum Pump for Freeze Drying	76 L/min throughput at 60 Hz; 62 L/min throughput at 60 Hz	VLP80

### Small capacity rotors compatible with the Savant SpeedVac DNA130 Vacuum Concentrator

Working volume (ml)	Capacity	Sample Container	Rotor Cat. No.
1.2-1.6	24	1.5 ml microcentrifuge tubes	RD24
1.2-1.6	36	1.5 ml microcentrifuge tubes	RD36
0.5	48	0.5 ml microcentrifuge tubes	RD48
0.5	72	0.5 ml microcentrifuge tubes	RD72
--	2	Shallow well plates	RD2MP

### Medium capacity rotors compatible with Savant SpeedVac SPD120, SPD130DLX, SPD140DDA and SPD1030 Vacuum Concentrators

Working volume (ml)	Capacity	Sample Container	Rotor Cat. No.
50	6	50 ml conical tubes	RH6-50
12	10	15 ml conical tubes	RH10-15
3.5	10	5 ml microcentrifuge tubes	RH10-15
1.2-1.6	40	1.5-2.0 ml microcentrifuge tubes	RH40-11
1.2-1.6	64	1.5-2.0 ml microcentrifuge tubes	RH64-11
1.2-1.6	120	1.5-2.0 ml microcentrifuge tubes	RH120-11
15	8	15 ml Corex™ plastic tubes	RH8-17.5
10	8	18 x 100, 17 x 95, or 16 x 100 mm glass or plastic tubes	RH8-18
8	32	1.5-2.0 ml microcentrifuge tubes	RH32-13
4	40	1.5-2.0 ml glass or plastic tubes	RH40-12
4	72	1.5-2.0 ml glass or plastic tubes	RH72-12
0.3	100	0.4 ml glass or plastic tubes	RH100-6
0.3	100	0.5 ml glass or plastic tubes	RH100-8
80	4	100 ml pear-shaped flasks	RH4-100
2.4	12	4 ml vials	RH12-20
16	12	20 ml scintillation vial	RH12-28
3	24	1 4 ml dram vial or 15 x 45 mm vials	RH24-15
5.6	24	18 x 52 mm scintillation vial	RH24-18
2	60	12 x 32 or 12 x 40 mm vials	RH60-12-40
--	2	Shallow well plates	RH2MP
--	2	Deep well plates	RHDW2MP*†
--	6	Shallow well plates	RHSW6MP*

\* Not available for the Savant SpeedVac SPD1030 Vacuum Concentrator

† Can be used to upgrade to a Savant SpeedVac PRO Rotor Kit



Savant RH24-15 Medium Capacity Rotor



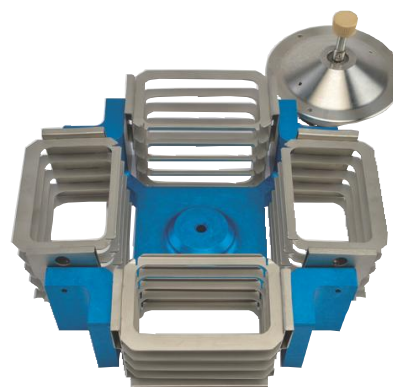
Savant RH40-11 Medium Capacity Rotor

**Large capacity rotors compatible with Savant SpeedVac SPD210 and SPD2030 Vacuum Concentrators.**  
**All large capacity rotors are also compatible with the Savant SpeedVac SPD300DDA Vacuum Concentrator**  
**when used with a Thermo Scientific RAD200 Adapter.**

Working volume (ml)	Capacity	Sample Container	Rotor Cat. No.
12	10	50 ml conical tubes	RH12-29
40	48	50 ml conical tubes	RH48-50U
12	52	15 ml conical tubes	RH52-15
12	30	15 ml conical tubes	RH60-17-100
3.5	30	5 ml microcentrifuge tubes	RH60-17-100
1.5	200	1.5 -2.0 ml microcentrifuge tubes	RH200-12
4	200	13 x 100 mm glass or plastic tubes	RH200-12
40	12	28 x 150 mm glass or plastic tubes	RH12-29
40	32	18 x 150 or 16 x 125 mm glass or plastic tubes	RH32-18-150
12	48	16 x 125 mm or 18 x 125 mm glass or plastic tubes	RH48-18-125
24	88	16 x 125 mm glass or plastic tubes	RH88-16-125
80	8	100 ml pear-shaped flasks	RH8-200
3	192	1 4 ml dram vial or 15 x 45 mm vials	RH192-15
16	50	20 ml scintillation vial	RH50-28-60
--	12	Shallow well plates	MPTR12-210
--	4	Deep well plates	MPTR8-210

### Savant Rotor Upgrade Kits

The Savant PRO Rotor Kits are an alternative to traditional rotors. This highly versatile rotor system consists of a four-position rotor along with mix-and-match carriers and blocks. This system can be used with Savant SpeedVac SPD210, SPD2030, and SPD300 Large Volume Vacuum Concentrators.



**Savant PRO-50 Rotor Kit**

### Savant PRO Rotor Systems

Description	Tubes	Cat. No.
Single-shelf, heavy duty rotor kit, consisting of UPR-4A Rotor, UPC-1 Carrier Set and SUMAX 400 Upper Magnetic Assembly	See PRO-Rotor Components table for compatible blocks	PRO-10 Rotor Kit
Single-shelf, heavy duty rotor kit, consisting of UPR-4A Rotor, UPC-2 Carrier Set and SUMAX 400 Upper Magnetic Assembly	8 deep well plates	PRO-20 Rotor Kit
Single-shelf, heavy duty rotor kit, consisting of UPR-4A Rotor, UPC-5 Carrier Set and SUMAX 400 Upper Magnetic Assembly	20 shallow well plates	PRO-50 Rotor Kit

## Savant PRO rotor blocks

Working volume (ml)	Capacity	Sample Container	Rotor Cat. No.
1.2-1.6	25	1.5 ml microcentrifuge tubes	RBA25-11-39
--	126	6 x 32 mm glass or plastic tubes	RBA126-6-32
8	35	13 x 100 mm glass or plastic tubes	RBA35-13-100
12	15	16 x 25 mm glass or plastic tubes	RBA15-16-125
5	24	17 x 60 mm glass or plastic tubes	RBA24-17-60
12	15	16 x 100 mm glass or plastic tubes	RBA24-16-100
12	24	15 ml conical tubes	RBA24-16-100
40	6	50 ml conical tubes	RBA6-30-115
4	12	20 ml scintillation vials**	RBA12-28-58
4	24	19 x 65 mm flat-bottom vials	RBA24-19-65
2	54	12 x 32 mm vials	RBA54-12-32
3	24	1 4 ml dram or 12 x 45 mm vials**	RBA24-15-45
--	--	100 ml round- or flat-bottom flask	RBA2-FLSK-100
--	--	240 ml round- or flat-bottom flask	RBA1-FLSK-250
--	--	3 ml beaker	RBA24-17-31

\*\* Requires Savant RHDW2MP Rotor for use

## Savant PRO rotor components

Component	Capacity	Cat. No.
UPC Carrier	1 shelf, set of 4 carriers, 4 shallow well plates, 4 deep well plates, 4 rotor blocks for vials and tubes	UPC-1
UPC Carrier	2 shelf, set of 4 carriers, 8 shallow well plates, 8 deep well plates	UPC-2
UPC Carrier	5 shelf, set of 4 carriers, 20 shallow well plates	UPC-5
Universal Plate	4 position swing-out horizontal universal plate rotor for UPC carriers	FPR-4A
Magnetic Assembly	Magnetic assembly required for use with individually assembled carrier blocks and carriers	SUMAX400



Savant UPC-1 Carrier



Savant FPR-4A Universal Plate



Savant PRO-10 Rotor Kit

**Savant SpeedVac PRO Rotor components**

Component	Description	Cat. No.
UPC Carrier	1 shelf, set of 4 carriers, 4 shallow well plates, 4 deep well plates, 4 rotor blocks for vials and tubes	UPC-1
UPC Carrier	2 shelf, set of 4 carriers, 8 shallow well plates, 8 deep well plates	UPC-2
UPC Carrier	5 shelf, set of 4 carriers, 20 shallow well plates	UPC-5
Universal Plate	4 position swing-out horizontal universal plate rotor for UPC carriers	FPR-4A
Magnetic Assembly	Magnetic assembly required for use with individually assembled carrier blocks and carriers	SUMAX400

**Additional Savant SpeedVac Vacuum Concentrator accessories**

Accessory	Cat. No.
<b>Solutions</b>	
CryoCool Heat Transfer Fluid, 1 L bottle	SCC1
CryoCool Heat Transfer Fluid, 5 L bottle	SCC5
<b>Parts and Filters</b>	
Glass Condensation Flask	GFC400
Glass Condensation Flask Cover	FC400
Tubing Pack	UTP-TYG
Mist Filter Replacement Cartridge	MF190
Vacuum pump oil recirculate / filter used on all VLP pumps	VPOF-110
Oil-Mist Exhaust Filter	EMF-10
LyoPump for aggressive solvents	VLP195FD
Recirculating oil filter for use with acids or DMSO/DMF	VPOF110
Muffler (OME190 Oil Mist Eliminator) Two Oil Filters	MF190
<b>Measurement and storage</b>	
Digital Vacuum Gauge	DVG50-UNV
Deluxe Cart	CC120DX
Complete list of chemical traps and accessories	<a href="http://thermofisher.com/chemicaltraps">thermofisher.com/chemicaltraps</a>
Complete list of SpeedVac Rotors	<a href="http://thermofisher.com/speedvacrotors">thermofisher.com/speedvacrotors</a>

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