

SOLVENT PURIFICATION SYSTEMS



PRODUCT INFO

- **Complete Systems Ready-to-operate**
Quick collection of ultra-pure solvents
- **Safe Alternative to Distilling**
Fire safety storage cabinet for flammable liquids ensures lab safety
- **Up to 7 Solvents per System**
High filter capacity with single loading of the filter columns
- **Connectable to MBRAUN Gloveboxes or Use as a Stand-alone Device**
Quick dispensing under inert atmosphere
- **Safe, Efficient and Reliable Solvent Drying**
Modern and safer alternative to traditional solvent distillation

PURE SOLVENTS - SEAMLESS HANDLING

By passing solvents through high-performance drying columns, MBRAUN systems achieve ultra-low moisture levels in the ppm range – without heating, without glassware, and without the risks of traditional distillation. The dried solvents can be safely dispensed into a collection vessel or directly integrated into an inert glovebox environment. This closed-loop approach ensures maximum user safety, efficient workflows, and a reduced environmental footprint.

WATCH THE VIDEO



HOW TO DISPENSE SOLVENTS WITH SPS
mbraun.com/vid_0078.html

SPS COMPACT

Dimensions (W x H x D)	275 mm x 873 x 520 mm
Max. solvent lines	1
Material	Stainless steel (1.4301 / US 304)
Manifold	Stainless steel piping with three way hand valve
Positioning system	Jack stand for positioning of the collection vessel
Solvent flow rate	< 1 l/min
Power	230V / 50-60Hz, 10 amps, 115v / 50-60 Hz, 15 amps
Dispensing	From the SPS system
Working gas	Nitrogen or argon (typically a nitrogen source of 99.99% purity or better)
Solvent regulation pressure	Individual regulation for a single solvent line, 0.3 – 0.5 bar
Inlet pressure	Inlet pressure set between 4.0 bar and 6.0 bar
Filter type	Double column solvent filtration (stainless steel 1.4301 / US 304)
Filter column size	4.8 l
Particle filtration	Filter columns equipped with pre-filters
Filter column capacity	Up to 800 l (depends on solvent type)
Attainable purity	Below a few ppm H ₂ O and O ₂ , varies according to solvent type
Reservoir	17 l (stainless steel 1.4301 / US 304)
Reservoir features	Two shut off valves, over pressure relief valve
Vacuum pump	Oil free diaphragm vacuum pump
Glass ware storage flask	250 ml



Safe operation



Immediate availability of pure solvent





SPS-5 AND SPS-7

Type	Encapsulated Solvent Purification System
Dimensions (W x H x D)	SPS-5: 1300 x 2063 x 1040 mm SPS-7: 1700 x 2063 x 1040 mm
Max. solvent lines	Up to 7 solvents
Material	Stainless steel (1.4301 / US 304)
Manifold	Stainless steel piping with three way hand valve
Work shelf	Height adjustable rack with vertical clamping posts
Solvent flow rate	< 1 l/min
Power	230V / 50-60Hz, 10 amps, 115v / 50-60 Hz, 15 amps
Solvent storage safety cabinet EU	Cabinets available for up to 7 solvent systems Type 90 (EN 14470-1), Fire resistance up to 90 minutes
Solvent storage safety cabinet US	Meets NFPA regulation code 30
Vapor removal for dispensing area	DN 75 connection to exhaust system & emergency cut-off valve
Vapor removal for the safety cabinet	DN 50 connection to exhaust system & emergency cut-off valve
Dispensing	From the SPS system, inside glovebox, or combination of both
Working gas	Nitrogen or argon (typically a nitrogen source of 99.99% purity or better)
Solvent regulation pressure	Individual regulation for each solvent line, 0.3 - 0.5 bar
Inlet pressure	Inlet pressure set between 4.0 bar and 6.0 bar
Filter type	Double column solvent filtration (stainless steel 1.4301 / US 304)
Filter column size	4.8 l
Particle filtration	Filter columns equipped with pre-filters
Filter column capacity	Up to 9,000 l (depends on solvent type)
Attainable purity	Below a few ppm H ₂ O and O ₂ , varies according to solvent type
Reservoir	17 l (stainless steel 1.4301 / US 304)
Reservoir features	Two shut off valves, over pressure relief valve
Vacuum pump	Oil free membrane vacuum pump
Glass ware storage flask	250 ml

BENEFITS



Safe operation



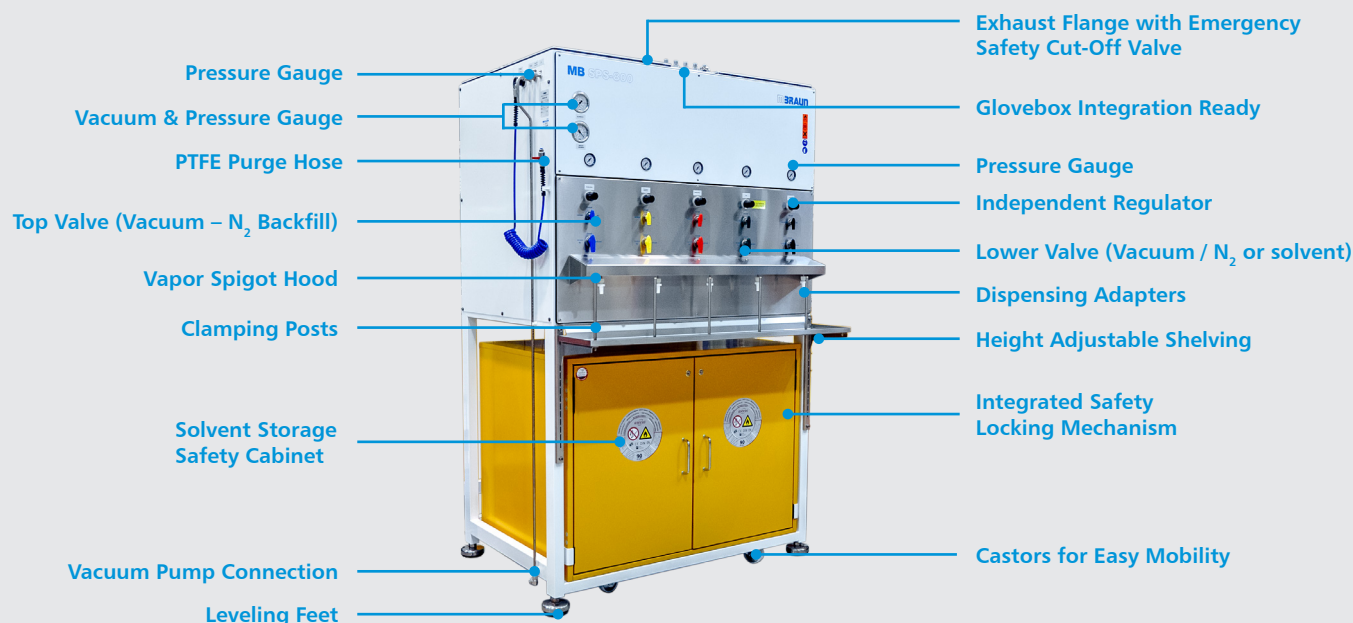
Immediate availability of pure solvents



Glovebox integration possible



SOLVENT PURIFICATION SYSTEM FEATURES



Note: Shows the basic system configuration of an MBRAUN SPS-5. System configuration, color and flammable cabinet specification may vary.

LIST OF SOLVENTS

Acetic Acid	Diethyl Ether*	Methylcyclohexane
Acetic Anhydride	Diethylene Glycol Dimethyl Ether	N,N-Methylpyrrolidone
Acetic Acid Ethyl Ester, Ethyl Acetate	Diisopropylamine (DIPA)	Nitromethan
Acetic Acid Methyl Ester	Diisopropyl Ether	Pentane
Acetone*	Dimethylbenzene	Petroleum Ether
Acetonitrile	N,N-Dimethylformamide (DMF)	1-Propanol
Benzene	Dimethyl Sulfoxide (DMSO)	2-Propanol
1-Butanol	1,4-Dioxane	1,2 Propylene Carbonate
2-Butanol	Dipropylamine	Pyridine
tert-Butanol	Dipropyl Ether	Tetrachloromethane
t-Butyl Methyl Ether	N-Ethyl-diisopropylamine	THF - Inhibitor free
Chlorobenzene	Ethylene Glycol Dimethyl Ether	Tetramethylethanediamine
Chloroform*	Formic Acid Ethyl Ester	Toluene
Chloromethane	n-Heptane, n-Hexane	Triethylamine
Dichloromethane*	2- Methoxyethanol	Xylene

More on request, please contact MBRAUN

*Note: For Diethyl Ether, Dichloromethane or Chloroform: if it contains a stabilizer this may be removed partly by the drying procedure.
For Acetone: please contact us. Side reaction due to Aldol condensation may occur during the drying procedure.

EXAMPLES OF PURIFICATION PERFORMANCE

Solvent	Type	Water concentration in solvent feed	Mean value of residual water after drying	Capacity of the columns Theoretical
n-Hexane	Aliphatic hydrocarbon	53 ppm	<1 ppm	9000 l
Toluene	Aromatic hydrocarbon	302 ppm	<2 ppm	1090 l
Dichloromethane	Halogenated hydrocarbon	436 ppm	<1 ppm	500 l
Acetonitrile	Dipolar aprotic solvent	560 ppm	<5 ppm	660 l
THF - Inhibitor free	Ether	550 ppm	~10-15 ppm	400 l

Please Note: Test results may vary, these results were operated in an inert glovebox workstation.