EXTRACTION

Kimble®

A WORLD OF EXPERTISE IN YOUR HANDS

Kimble® manufactures high quality extraction apparatus from 33 expansion borosilicate glass used in solid phase extraction manifolds, liquid/liquid extraction, solid/liquid extraction and Soxhlet extraction apparatus.

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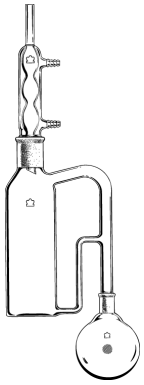
Continuous Liquid/Liquid Extraction Apparatus for Heavier than Water Samples



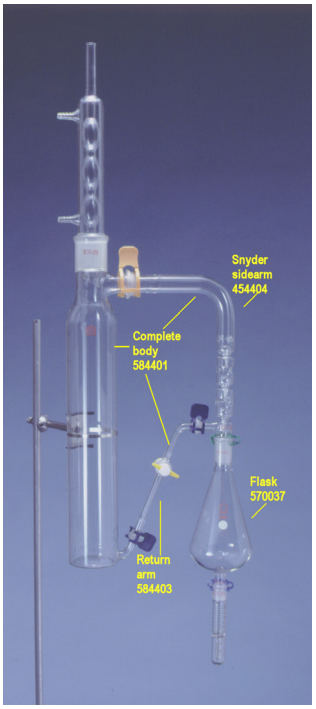
This extractor body is designed for EPA priority pollutant samples where the extracting solvent is heavier than water.

- This technique is sometimes preferred to the separatory funnel
- Designed for samples of one liter plus approximately 200 mL of extracting solvent
- Several units may be set up using minimal bench space
- Extractor body has a Standard Taper 45/50 top joint and a 24/40 side joint
- Condenser has a Standard Taper 45/50 joint
- Flask has a Standard Taper 24/40 joint
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	Capacity (mL)	Jacket Length (mm)	Case Qty
584190-0000	1000	260	1

Replacement Parts

Part Number	Description	Case Qty
456000-0022	Allihn Condenser, 260 mm jacket, 45/50 joint, Fits tubing ID 3/8", Overall height 365 mm	1
584191-0000	Extractor Body, 45/50 Top joint, 24/40 Side, OD 100 mm	1
601000-0724	1000 mL Round Bottom Flask, 24/40 Joint, OD 130 mm	1



Continuous Liquid/Liquid Extraction with Built-in SLOW-DRY® Concentrator

This extractor is designed for EPA priority pollutant samples where the extracting solvent is heavier than water.

- Both extraction and concentration are performed with the same apparatus
- A unique feature of this unit is the removable Snyder column sidearm and return tube designed for easy cleaning
- Taller overall height allows longer solvent residence time, increasing efficiency
- Return tube has a 821001-0004 PTFE plug with a 4 mm bore
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Close the PTFE stopcock to stop flow when extraction is complete and concentration commences.

Part Number	Overall Height (mm)	Overall Width (mm)	Case Qty
584400-0000	981	298	1

Replacement Parts

Part Number	Description	Case Qty
456000-0022	Allihn Condenser, 260 mm jacket, 45/50 Joint, Fits tubing ID 3/8", Overall height 365 mm	1
570037-0500	500mL Flask, 24/40 Top, 19/22 Bottom	1
570071-1525	15mL SLOW-DRY® Concentrator Tube for Kuderna-Danish w/Clamp, 19/22, Height 130 mm, Subdiv. 0-1 in 0.1, 2-15 in 1 mL	1
584401-0000	Continuous Liquid/SLOW-DRY® Extraction Apparatus, Complete Body (Body, Sidearm, Return Arm, 3 Clamps)	1
584403-0000	Continuous Liquid/SLOW-DRY® Extraction Apparatus, Return Arm, 18/9 Ball Joint	1
584404-0000	Continuous Liquid/SLOW-DRY® Extraction Apparatus, Snyder Sidearm, 35/25 Top, 18/9 Side, 24/40 Bottom	1

Accessories

Part Number	Description	Case Qty
456250-0022	Freidrich Condenser, 190 mm, 45/50 bottom standard taper joint, Fits tubing ID 3/8", Overall height 340 mm	1

Combination Solid/Liquid and Liquid/ Liquid Extraction Apparatus

This extractor is designed to maximize efficiency through continuous solvent displacement.

- As a solid/liquid extractor, a thimble is used and the sample is immersed in extracting solvent at all times for optimal efficiency
- As a liquid/liquid extractor, with heavier-than extracting solvents, the thimble is removed and the three-way stopcocks are configured for bottom take-off
- With lighter-than solvents, a solvent guide is added and the three-way stopcocks are configured for sidearm take-off
- Supplied complete with extractor body, primary condenser and extraction thimble
- Flask, solvent guide and secondary condenser are optional
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	Standard Taper Joints	Case Qty
586300-0000	14/20, 45/50	1

Accessories

Part Number	Description	Case Qty
282550-0000	West Medium Length Condenser, 14/20, Jacket length 110mm, Condensing area 45cm², Fits tubing ID 1/4", Overall height 190mm	1
294000-0250	250 mL Heavy Wall Round Bottom Boiling Flask, 14/20, OD 83 mm	1
586300-0004	Solvent Guide for Extraction Apparatus	1

Micro Soxhlet Extraction Apparatus

This Soxhlet-type extraction apparatus is for use with 292100-0000 extraction thimble, which has a coarse porosity.

- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	Capacity (mL)	Fits Standard Taper Joint	Case Qty
292010-0000	25	14/20	1

Replacement Parts

Part Number	Description	Case Qty
283250-0000	Allihn Micro Reflux Condenser, 19/22, Fits tubing ID 1/4", Overall height 162 mm	1
292011-0000	Soxhlet Micro Extractor Body	1
294000-0025	25 mL Heavy Wall Round Bottom Boiling Receiving Flask, 14/20, OD 42 mm	1

Accessories

Part Number	Description	Case Qty
292100-0000	40-60 micron porosity Extraction Thimble, Body OD 11 mm, Disc Diameter 9 mm, Height above Frit 40 mm, Overall Height 55 mm, Capacity 2.5 mL	1

Custom Glass

CGS is the Custom Glass Shop at Kimble®. We can be your single source for custom laboratory glassware design and fabrication. Whether you want a slight variation of a standard product or a completely unique design, CGS can do it! In quantities as small as one piece. Our staff of veteran glassblowers will meet your requirements and exceed your expectations.

CGS Capabilities:

- Engineering and design
- Graduating
- Quartz apparatus
- Glass to metal graded seals
- Grinding and polishing (machine or hand)
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- Precision bore tubing
- Glass tooling
- Large-scale systems
- Flasks to 72 liters
- Decorating

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Soxhlet Extraction Apparatus

The Soxhlet extractor was designed for separating an analyte with limited solubility in a particular solvent from an insoluble compound.

- Approximate capacities are measured to the base of the flask neck
- Standard Taper joint size between Soxhlet tube and condenser is 34/45
- Standard Taper joint between the Soxhlet tube and flask is 24/40
- Thimble size is determined by the ID of the extraction tube
- Hose connections on condenser accept 5/16" ID flexible tubing
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	Flask Capacity (mL)	Extraction Tube ID (mm)	Case Qty
24005-30	125	30	1
24005-40	250	40	1
24005-50	500	50	1

Replacement Parts for 24005-30

Part Number	Description	Case Qty
24027-30	30 mm Soxhlet Extraction Condenser Only, 34/45	1
24071-30	30 mm Soxhlet Extraction Tube Only, 24/40	1
25055-125	125 mL Flat Bottom Boiling Flask, 24/40	12

Replacement Parts for 24005-40

Part Number	Description	Case Qty
24027-40	40 mm Soxhlet Extraction Condenser Only, 45/50	1
24071-40	40 mm Soxhlet Extraction Tube Only, 45/50, 24/40	1
25055-250	250 mL Flat Bottom Boiling Flask, 24/40, Height 133 mm, OD 83 mm	12

Replacement Parts for 24005-50

Part Number	Description	Case Qty
24027-50	50 mm Soxhlet Extraction Condenser Only, 55/50	1
24071-50	50 mm Soxhlet Extraction Tube Only, 55/50, 24/40	1
25055-500	500 mL Flat Bottom Boiling Flask, 24/40	12

Soxhlet Extraction Apparatus with Enlarged Vapor Tube

Soxhlet-type extraction apparatus with a bulb-type Allihn condenser, used for the continuous extraction of solids with a suitable solvent.

- Improved design with a protected siphon tube, an enlarged vapor tube and sloping seals to prevent the trapping of liquid
- Standard Taper joints connect the condenser to the extractor and the extractor to the flask
- Uses paper, alundum or 586500 fritted glass extraction thimbles, not supplied
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	Capacity (mL)	Fits Standard Taper Joint; Standard Taper Joint to Condenser	Case Qty
585050-0022	500	24/40; 45/50	1
585050-0023	500	24/40; 55/50	1

Replacement Parts for 585050-0022

Part Number	Description	Case Qty
456000-0022	Allihn Condenser, 260 mm jacket, 45/50 Joint, Fits tubing ID 3/8", Overall height 365 mm	1
586000-0022	Soxhlet Extractor Body, Size 22, Use with thimble size 0022/0222, Body ID x length 41 x 157 mm, 45/50 top joint, 24/40 bottom joint, Overall height 300 mm	1
601000-0624	500mL Round Bottom Flask, 24/40 Joint, OD 102 mm	1

Replacement Parts for 585050-0023

Part Number	Description	Case Qty
456000-0023	Allihn Condenser, 300 mm jacket, 55/50 Joint, Fits tubing ID 3/8", Overall height 405 mm	1
586000-0023	Soxhlet Extractor Body, Size 23, Use with thimble size 0023/0223, Body ID x length 49 x 180 mm, 55/50 top joint, 24/40 bottom joint, Overall height 340 mm	1
601000-0624	500 mL Round Bottom Flask, 24/40 Joint, OD 102 mm	1

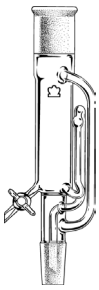
Soxhlet Extraction Body

Extractor body only, used as component part of 585050 Soxhlet extraction assemblies.

- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	Overall Height (mm)	Standard Taper Joints: Top, Bottom	Case Qty
586000-0021	270	34/45, 24/40	1
586000-0022	300	45/50, 24/40	1
586000-0023	340	55/50, 24/40	1
586000-0024	415	71/60, 29/42	1
586000-0025	475	103/60, 29/42	1

Soxhlet Extraction Body with a PTFE Stopcock



Extractor with PTFE stopcock outlet for periodic solvent removal.

- Stopcock has an 821001 PTFE plug
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	Overall Height (mm)	Standard Taper Joints: Top, Bottom	Case Qty
586280-0022	300	45/50, 24/40	1

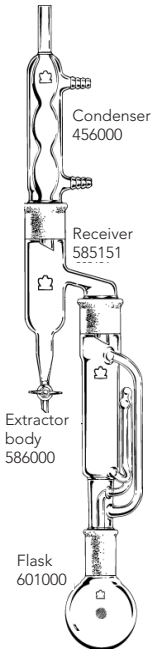
All-Glass Extraction Thimble

These thimbles are for use in extractor bodies 586000 and 586100, except thimble 292100, which is for use in 292010 extraction apparatus.

- All-glass construction allows visual examination during the extraction and subsequent weighing
- Unit has either a coarse (40-60 micron porosity) or an extra-coarse (170-220 micron porosity) glass fritted disc sealed in
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	Capacity (mL)	Body OD (mm), Disc Porosity (microns)	Case Qty
292100-0000	2.5	11, 40-60	1
586500-0021	25	25, 170-220	1
586500-0022	55	35, 170-220	1
586500-0023	150	45, 170-220	1
586500-0024	275	57, 170-220	1
586500-0211	25	25, 40-60	1
586500-0222	55	35, 40-60	1
586500-0233	150	45, 40-60	1
586500-0244	275	57, 40-60	1
586500-0255	850	90, 40-60	1
586500-0266	2800	125, 40-60	1

Soxhlet/Dean Stark Apparatus



This apparatus combines two analytical techniques, Soxhlet extraction and Dean-Stark azeotropic distillation, into a single process for the removal of water, chlorinated dibenzo-p-dioxins (CCDs) and chlorinated dibenzofurans (CDFs) from wet particulate samples.

- Determination of water and CDDs/ CDFs on the same sample aliquot is achieved without the need for desiccation prior to Soxhlet extraction
- Loss of analytes and sample contamination are avoided
- Uses a 586500-0000 fritted glass extraction thimble, not supplied
- PTFE stopcock plug is 821001-0002
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	Case Qty
585150-0023	1

Replacement Parts

Part Number	Description	Case Qty
456000-0023	Allihn Condenser, 300 mm jacket, 55/50 Joint, Fits tubing ID 3/8", Overall height 405 mm	1
585151-0035	Dean-Stark Receiver Only, 35ml, 55/50 Top and Side	1
586000-0023	Soxhlet Extractor Body, Size 23, Use with Thimble Size 0023/0223, Body ID x length 49 x 180 mm, 55/50 top joint, 24/40 bottom joint, Overall height 340 mm	1
601000-0624	500mL Round Bottom Flask, 24/40 Joint, OD 102 mm	1

Accessories

Part Number	Description	Case Qty
586500-0233	40-60 micron porosity thimble, Size 233, 150 mL, Body OD 45 mm, Disc dia. 40 mm, Height above frit 115 mm, Overall height 130 mm, Capacity 150 mL	1

Pickel Extraction Flask

- KIMAX® flask with three indentations spaced 120 degrees apart
- Diameter at top is closely controlled to insure a fit with metal condensers
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	Height (mm)	Body OD (mm)	Case Qty
26850-99	133	45	6

Sublation Extraction Apparatus

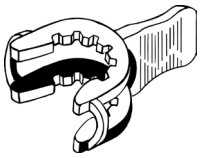
Designed for the isolation of surfactants from dilute aqueous solutions.

- The operation is described in Standard Methods for the Examination of Water and Wastewater, 22nd edition (Method 5540B)
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	Case Qty
586800-0000	1

Replacement Parts

Part Number	Description	Case Qty
183000-2440	24/40 Bottom Joint, Fits Tubing ID 3/8", Overall Height 80 mm	1
657002-0125	125mL Gas Washing Bottle	1



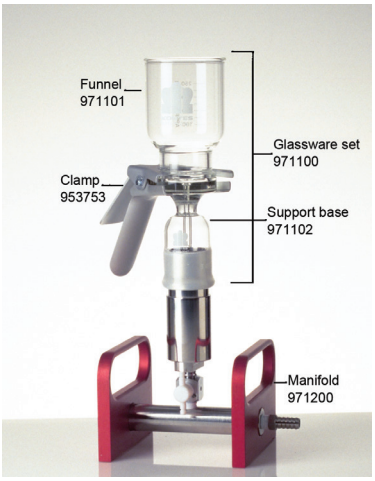
Accessories

Part Number	Description	Case Qty
675310-0019	Size 19 Polyacetyl, Spherical Joint Clamp, Lt Blue, fits joint sizes 18/7, 18/9	12

SPE Disk Glassware and Manifolds

Our line of SPE glassware and manifolds has been specially designed for use with solid phase extraction disks to give you the highest possible recoveries of extracted analytes from drinking water, surface water and waste water samples.

- All SPE manifolds are supplied with three-way valves that allow the venting to atmosphere of each station without affecting the vacuum in the rest of the system
- SPE manifolds are manufactured from corrosion-resistant stainless steel
- Valves have stainless steel bodies with PTFE plugs
- SPE funnels have a sharp edge on the bottom inside diameter that, combined with the stronger spring in our aluminum clamps, minimizes any horizontal capillary action of the sample and solvent into the disk
- Extracted samples can be collected directly into K-D concentrator tubes, EPA water analysis vials, sample vials and test tubes up to 30 mm OD x 100 mm high
- PTFE-coated stainless steel support screen reduces the possibility of sample-to-sample cross-contamination compared to the traditional glass frit
- PTFE coating also protects the support screen from corrosion caused by acid-preserved samples
- SPE support bases with 40-35 outer Standard Taper joints have a specially designed internal surface that reduces dead volume and minimizes holdback of the extracted analyte
- Glassware is manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements



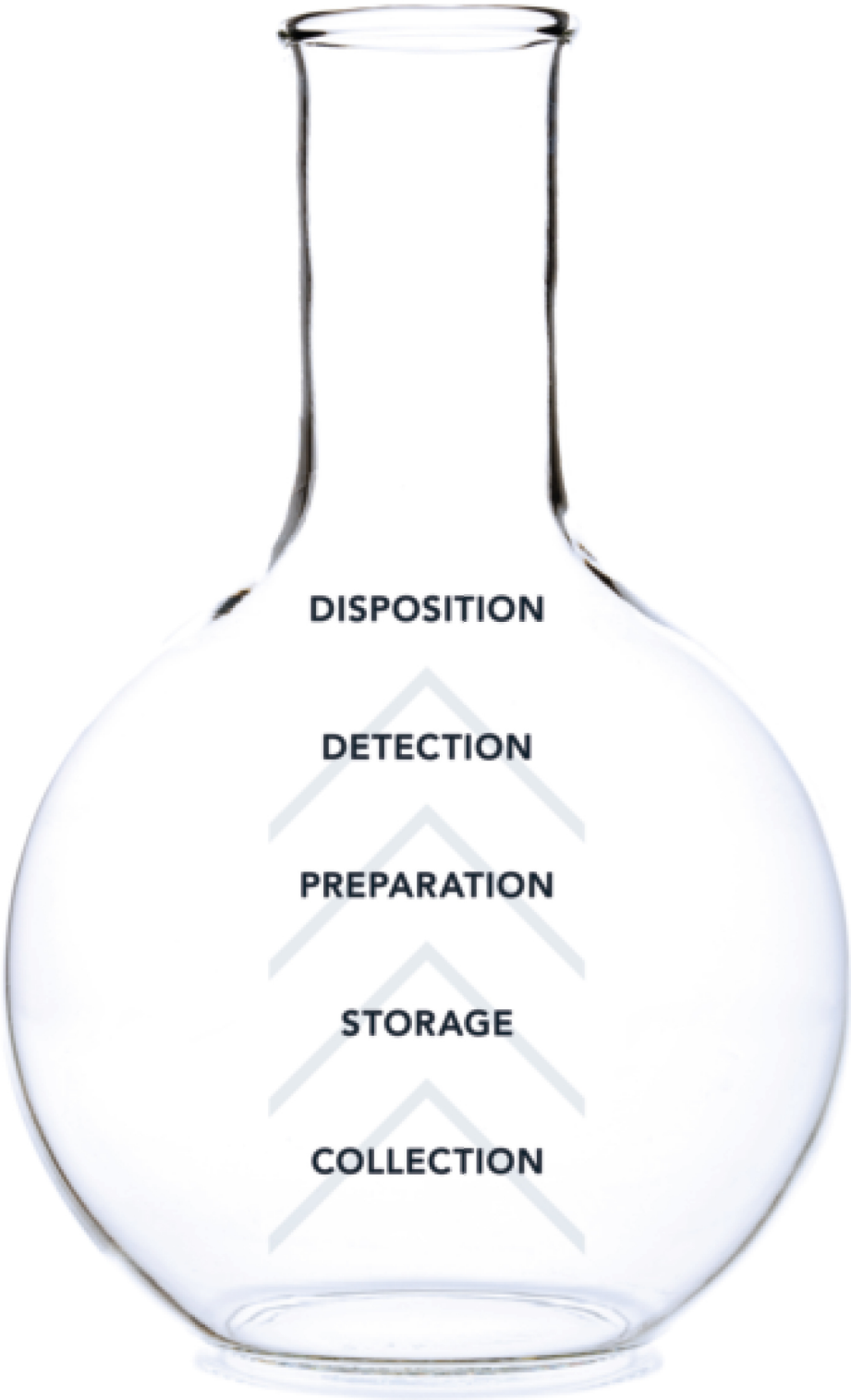
Part Number	SS Cup ID x Height (mm)	Includes	Case Qty
971000-1047	33 x 100	One 47 mm set of glassware and one 1-place manifold	1
971000-3047	33 x 100	Three 47 mm sets of glassware and one 3-place manifold	1
971000-6047	33 x 100	Six 47 mm sets of glassware and one 6-place manifold	1

Replacement Parts

Part Number	Description	Case Qty
971100-0047	47 mm SPE Glassware Set (Funnel, Support Base, Support Screen, PTFE Gaskets & Clamp)	1
971101-0347	47 mm, 300 mL SPE Funnel	1
971102-0047	47 mm SPE Support Base	1
971103-0047	47 mm SPE Support Screen, PTFE-coated SS	1
953753-0000	47 mm Anodized Aluminum Clamp	1
953811-0000	47 mm PTFE Gasket, 25/package (5 included with Glassware Set)	25
971200-0002	SPE Manifold PTFE Valve Plug and Stainless Steel Valve Body	1
971200-1000	1-Place SPE Manifold, Stainless Steel	1
971200-3000	3-Place SPE Manifold, Stainless Steel	1
971200-6000	6-Place SPE Manifold, Stainless Steel	1

Accessories

Part Number	Description	Case Qty
676001-4035	PTFE Sleeves for Greaseless Connections, 40/35 Joint	6
923910-0110	Pressure/Vacuum Diaphragm Pump, 115 VAC, 60 Hz, 4.2 Amps, Max free air capacity 1.1 CFM, Ultimate vacuum 25.5" Hg, Noise level <70 DB, 14.4 lb/6.5 kg; 3/8" hose barbs on inlet and outlet	1
953830-0000	40/35 Glass Cap	1
971103-4247	47 mm PCTFE SPE Support Screen	1
971101-1047	47 mm, 1000 mL SPE Funnel	1
971100-0090	90 mm SPE Glassware Set (Funnel, Support Base, Support Screen, & Clamp)	1
971103-4290	90 mm PCTFE SPE Support Screen	1
953753-0090	90 mm Anodized Aluminum Clamp	1
971101-1090	90 mm, 1000 mL SPE Funnel	1
971102-0090	90 mm SPE Support Base	1
971103-0090	90 mm SPE Support Screen, PTFE-coated SS	1



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