



# CATALOG 2025



# KEMTECH

ACCESSORIES  
ADAPTER  
BUBBLER  
BOTTLE GAS WASH  
CHROMATOGRAPHY  
CHROMATOGRAPHY SPRAYER  
COLUMN DISTILLATION  
CONDENSER  
DEWAR FLASK  
DISH  
DISTILLATION  
DRYING APPARATUS SOLVENT  
EVAPORATOR, KUDERNA-DANISH  
EXTRACTOR, SOXHLET  
EXTRACTOR  
FILTRATION APPARATUS  
FLASK  
FUNNEL  
POWDER  
PRESSURE EQUALIZING  
FILTER  
SEPARATOR



## TABLE OF CONTENTS

<b>78, 109-116</b>	ACCESSORIES
<b>1-18</b>	ADAPTER
<b>12</b>	THERMOMETER
<b>18-19</b>	BUBBLER
<b>20</b>	BOTTLE, GAS WASHING
<b>21</b>	COLUMN, DISTILLING
<b>22-29</b>	CONDENSER
<b>30</b>	DEWAR FLASK
<b>31-40</b>	CHROMATOGRAPHY
<b>41-49</b>	DISTILLATION
<b>50</b>	EXTRACTOR, SOXHLET
<b>51</b>	EVAPORATOR, KUDERNA-DANISH
<b>52</b>	FILTRATION APPARATUS
<b>53-62</b>	FLASK
<b>63-69</b>	SCHLENK TUBE
<b>70, 72-75, 81</b>	FUNNEL, FILTER
<b>71</b>	FUNNEL
<b>74</b>	GAS DISPERSION TUBE
<b>76-77</b>	PEPTIDE SYNTHESIS VESSEL
<b>78</b>	REACTOR, PHOTOCHEMICAL
<b>79-80</b>	PRESSURE VESSEL
<b>82-85</b>	FUNNEL, SEPARATORY
<b>86-87</b>	FUNNEL, PRESSURE EQUALIZING
<b>88-98</b>	MANIFOLD
<b>99-103</b>	VACUUM TRAP
<b>104</b>	STORAGE VESSEL
<b>105-106</b>	SOLVENT STILL
<b>107-108</b>	STOPPER
<b>117</b>	SYRINGE
<b>118-122</b>	STOPCOCK
<b>123-126</b>	HIGH VACUUM VALVE
<b>127-128</b>	SUBLIMATOR
<b>129-136</b>	MICROSCALE
<b>136</b>	STIR BAR
<b>137</b>	KIT, MICROSCALE
<b>138-140</b>	KIT, ORGANIC CHEMISTRY
<b>141</b>	NMR TUBE
<b>141</b>	DESICCATOR
<b>142</b>	VOLUMETRIC FLASK
<b>142</b>	BEAKER
<b>143</b>	CRYSTALIZING DISH
<b>143</b>	MEDIA BOTTLE
<b>144</b>	HOT PLATE MAGNETIC STIRRER



## INTRODUCTION

Founded in 1992, Kemtech has established itself as a leading supplier of specialty laboratory glassware in North America. Kemtech keeps significant inventory in its main warehouse strategically located in the United States to serve more than 2,000 universities, pharmaceutical companies, and research laboratories worldwide.

Kemtech provides the highest quality products in the industry with a unique manufacturing management system. It starts with high quality raw material from leading glass tubing manufacturers such as Schott Duran, Simax and BGIF. Kemtech manufactures strictly according to the ASTM Standards with borosilicate 3.3 tubing. It currently designs and manufactures more than 2,500 different products under the brands of Kemtech, Synthware, and KemX.

Since 2014, Kemtech has been a part of the TWD Group, which has enabled them to support their ever-expanding customer base via additional technical and customer supports, as well as 3 additional US warehouse locations.

## **KEMTECH AMERICA, INC.**

**ADDRESS: 10555 86<sup>TH</sup> AVENUE, PLEASANT PRAIRIE, WI 53158**

**PHONE: 800-472-1658 OR 262-925-2925**

**FAX: 262-925-2929**

**EMAIL: [CUSTOMERSUPPORT@KEMTECHAMERICA.COM](mailto:CUSTOMERSUPPORT@KEMTECHAMERICA.COM)**

**WEBSITE: [WWW.KEMTECH-AMERICA.COM](http://WWW.KEMTECH-AMERICA.COM)**



## General Instructions

### Glass Properties

All Kemtech glass products meet ASTM Specification E438, Type 1, Class

A, "standard specification for glasses in laboratory apparatus". This borosilicate glass with low linear coefficient of expansion is ideal choice for fabricating laboratory glassware.

Annealing Point.....	560°C
Linear Coefficient of Expansion.....	32/°C
Softening Point.....	820 °C
Lowest Temperature for Glass.....	-78°C (Dry Ice)
(Liquid Nitrogen is ok for the glassware only)	
Recommended Max Temperature for Glassware.....	200-230°C
Maximum Temperature for Fritted Glassware.....	150 °C
Maximum Temperature for Teflon Components.....	250°F
High Vacuum Range is Approximately.....1.1 x	10 <sup>-7</sup> Torr
Low Vacuum Range is Approximately.....1.3 x	10 <sup>-4</sup> Torr

All glassware is autoclavable but does not come sterile. We recommend removing Teflon/Rubber accessories prior to the autoclave process. Glassware with fritted discs can be autoclaved.

Our glassware can stand 2 atmospheres of pressure (15-25 PSI Maximum) at room temperature. Please check all glassware for flaws before applying any amount of pressure. Our pressure vessels are rated for 88 PSI at room temperature.

### Frit Porosities

Kemtech Code	Pore Size (Micron)
EC (X)	80-120
C	40-80
M	15-40
F	5-15





## Trademarks

Registered trademarks found in this catalog.

Teflon ®-----E.I.DuPont.

Viton ®-----E.I.DuPont.

Nylon ®-----E.I.DuPont.

Rodaviss ® -----S.A.V.France

## Terms of Payment

Net 30 days F.O.B shipping point unless otherwise stated in a quotation.

## Shipments

Unless otherwise instructed, we ship via UPS. Most of the items in this catalog are in stock and can be shipped promptly 4-6 business days after the receipt of order. Lead times may vary from time to time. If you are in urgent need of your order, please specify when placing your order. If an order cannot be filled completely, a partial shipment will usually be made with the remaining balance being sent as soon as possible. If the complete order is to be shipped in a single shipment, it should be specified on your purchase order.

## Shortage or Breakage

In case the quantity of material received does not agree with the items ordered, or if the items are received broken, please notify us within 30 business days from the delivery date.

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## Dimensions of Joints



Standard Dimensions for Full Length Interchangeable

Taper-Ground Joints

Joint Size Number (Designation)	Approximate Diameter at Small End mm	Approximate Length of Ground Zone mm	Diameter of Large End of Ground Zone mm
7/25	5	25	7.5
10/30	7	30	10.0
12/30	9.5	30	12.5
14/35	11	35	14.5
19/38	15	38	18.8
24/40	20	40	24.0
29/42	25	42	29.2
34/45	30	45	34.5
40/50	35	50	40.0
45/50	40	50	45.0
50/50	45	50	50.0
55/50	50	50	55.0
60/55	55	50	60.0

Standard Dimensions for Short Length Interchangeable Taper-Ground Joints

Joint Size Number (Designation)	Approximate Diameter at Small End mm	Approximate Length of Ground Zone mm	Diameter of Large End of Ground Zone mm
7/10	6.3	10	7.0
10/10	9.0	10	10.0
14/10	13.5	10	14.5
24/12	22.8	12	24.0
29/12	28.0	12	29.2
34/12	28.0	12	29.2
40/12	38.8	12	40.0
45/12	43.8	12	45.0
50/12	48.8	12	50.0
55/12	53.8	12	55.0
60/12	58.8	12	60.0

Standard Dimensions for Medium Length Interchangeable

Taper-Ground Joints

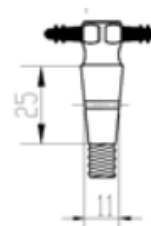
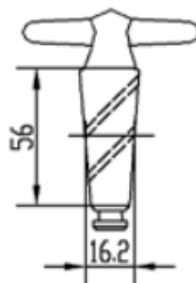
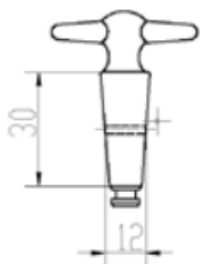
Joint Size Number (Designation)	Approximate Diameter at Small End mm	Approximate Length of Ground Zone mm	Diameter Large End of Ground Zone mm
5/12	3.8	12	5.0
7/15	6.0	15	7.5
10/18	8.2	18	10.0
12/18	10.7	18	12.5
14/20	12.5	20	14.5
19/22	16.6	22	18.8
24/25	21.5	25	24.0
29/26	26.6	26	29.2
34/28	31.7	28	34.5
40/35	36.5	35	40.0

Standard Dimensions for Short Length Standard Dimensions for Interchangeable Spherical Ground Joint

Joint Size Number (Designation)	Nominal Diameter of Ball mm	Nominal Tube Inside Diameter mm
21/1	12	1
21/1.5	12	1.5
12/2	12	2
12/3	12	3
12/5	12	5
18/7	18	7
18/9	18	9
28/12	28	12
28/15	28	15
35/20	35	20
35/25	35	25
40/25	40	25
50/30	50	30
65/40	65	40
75/50	72	50



## Dimensions for Stopcocks



## Stopcocks with Glass Plugs

### Single Straight-Bore Stopcocks

Stopcock Size (Designation and Bore of Hole in Plug) mm	Diameter of Plug at Centerline of Bore mm	Length of Shell $\pm 0.5$ mm
1m (1mm)	7	30
1	12	30
11/2	12	30
2	12	30
3	17	40
4	17	40
5	20	40
6	20	44
8	25	52
10	35	56

### Single Oblique-Bore Stopcocks

Stopcock Size (Designation And Bore of Hole in Plug) mm	Diameter of plug at Opening Nearest Large End mm (Gauging Point)	Distance of Gauging Point From Large End mm	Length of Shell $\pm 0.5$ mm
1	12.60	14.0	40
11/2	12.60	14.0	40
2	12.60	14.0	40
3	17.35	16.5	50
4	17.35	16.5	50

### T-Bore 120° Bore Stopcocks

Stopcock Size (Designation and Bore of Hole in Plug) mm	Diameter of Plug at Centerline of Bore mm	Length of Shell $\pm 0.5$ mm
1	17	40
11/2	17	40
2	17	40
3	20	44
4	20	44

### Double Oblique-Bore Stopcocks

Stopcock Size (Designation and Bore of Hole in Plug) mm	Diameter of Plug at Gauging Point (Center of plug) mm	Distance Gauging Point From Centerline of Hole Nearest Large End mm	Length Of Shell $\pm 0.5$ mm
1	14.5	12.5	50
11/2	14.5	12.5	50
2	14.5	12.5	50
3	16.2	14.0	56
4	16.2	14.0	56



## Stopcocks with Teflon® Plugs

Single Straight-Bore Stopcocks

Stopcock Size (Designation and Bore of Hole in Plug) mm	Diameter of Plug at Centerline of Bore mm	Length of Shell $\pm 0.5$ mm
1	11	25
2	11	25
3	15.2	30
4	15.2	30
6	16	35

Single Oblique-Stopcocks

Stopcock Size (Designation and Bore of Hole in Plug) mm	Diameter of plug at Opening Nearest Large End mm (Gauging Point)	Distance Of Gauging Point From Large end mm	Length Of Shell $\pm 0.5$ mm
2	15.9	11.5	30

T-Bore 120° Bore Stopcocks

Stopcock Size (Designation and Bore of Hole in Plug) mm	Diameter of Plug at Centerline of Bore mm	Length of Shell $\pm 0.5$ mm
1	15.2	30
2	15.2	30
4	16	35

Double Oblique-Bore Stopcocks

Stopcock Size (Designation and Bore of Hole in Plug) mm	Diameter of plug at Opening Nearest Large End mm (Gauging Point)	Distance Of Gauging Point From Large end mm	Length Of Shell $\pm 0.5$ mm
1	12.9	9.4	44
2	12.9	9.4	44
3	14.4	10.4	44
4	14.4	10.4	44

Kemtech America Welcomes:







## O-Ring-Organic Solvent Compatibility Chart<sup>1,2</sup>

Organic Solvents	Viton ®	EP	Chemraz ® 505	Chemraz ® 514 White
Acetic Acid, Glacial	D	B	A	B
Acetic Anhydride	B	B	A	B
Acetone	D	A	A	A
Acetonitrile	A	-	A	A
Ammonia, Anhydrous Liquid	D	A	A	B
Benzene	A	D	A	A
Benzyl Chloride	A	D	A	A
Bromine	A	D	A	A
Butane	A	D	A	A
Carbon Tetrachloride	A	D	B	B
Chloroform	A	D	A	A
Cyclohexane	A	D	A	A
Decane	A	D	A	A
Diethyl Ether	D	D	A	A
Ethanol	C	A	A	A
Ethyl Acetate	D	B	A	A
Gasoline	A	D	A	A
nHexane	A	D	A	A
Isobutyl Alcohol	A	A	A	A
Kerosene	A	D	A	A
Methanol	D	A	A	A
Methyl Ethyl Ketone	D	A	A	A
Pentane	A	D	A	A
Propane	A	D	A	A
Pyridine	D	B	A	A
Tetrahydrofuran	D	-	A	A
Toluene	D	D	A	A

A – Excellent. Volumetric swell is less than 10% after exposure.

B – Good. Limited exposure is recommended.

C – Fair. Volumetric swell is between 20% - 40% after exposure. Limited exposure and frequent O-ring replacements may be necessary.

D- Poor. Not suitable for these types of reactions/conditions.

We cannot be responsible for use of the above data in specific application. Immersion testing under actual conditions is always recommended. For specific chemical resistance, Please call our office for technical information at 800-472-1658.

Fluorinated products should never be exposed to molten or gaseous alkali metals such as sodium or potassium since vigorous exothermic reaction may occur.



### ADAPTER, BUSHING

Bushing adapters allow for compact assemblies of dissimilar joints.

Item #	Top Outer Joint	Bottom Inner Joint
A791419	14/20	19/22
A793519	14/35	19/38
A793524	14/35	24/40
A791924	19/38	24/40
A792434	24/40	34/45
A792445	24/40	45/50



### ADAPTER, REDUCING

With joints at top and bottom.

Item #	Top Joint	Bottom Joint
A201024	10/30	24/40
A201419	14/20	19/22
A201424	14/20	24/40
A201924	19/22	24/40
A202429	24/40	29/42
A202434	24/40	34/45
A202445	24/40	45/50



### ADAPTER, ENLARGING

With joints at top and bottom.

Item #	Top Joint	Bottom Joint
A251914	19/22	14/20
A252414	24/40	14/20
A252419	24/40	19/22
A252914	29/42	14/20
A252924	29/42	24/40
A253424	34/45	24/40
A254024	40/50	24/40
A254529	45/50	29/42



### ADAPTER, WITH BALL SOCKET

With top spherical socket joint and lower standard taper inner joint.

Item #	Top Joint	Bottom Joint
A663514	35/20	14/20
A663524	35/20	24/40

### ADAPTER, INLET

For use with gas inlet tubes or plain stem thermometers. Supplied with one holed rubber adapter.

Item #	Joint
A451420	14/20
A451922	19/22
A452440	24/40
<b>Accessory:</b>	
R045	Replacement Rubber Adapter



### REPLACEMENT RUBBER ADAPTER

Item #	Joint
R045	Replacement Rubber Adapter



### ADAPTER, INLET OR THERMOMETER

With a compression cap and Viton® O-ring to form a vacuum tight seal. To use it as a syringe port, simply replace the O-ring with the Teflon®-lined septum. Cap accommodates a 5.0 - 7.5mm O.D. thermometer. Supplied with one Nylon® cap and one Viton® O-ring.

Item #	Joint
A521420	14/20
A521922	19/22
A522440	24/40
<b>Accessories:</b>	
RC009	Nylon® caps
R108	Replacement Viton® O-rings, Size 108



### ADAPTER, INLET, WITH HOSE CONNECTION

Same as above but with an 8mm hose connection for N2/Ar or vacuum introduction. Supplied with one Nylon® and one Viton® O-ring.

Item #	Joint
A531420	14/20
A532440	24/40
<b>Accessories:</b>	
RC009	Nylon® Caps
R108	Replacement Viton® O-rings, Size 108




**ADAPTER, VACUUM OR ARGON**

With hose connection on the side and a male joint.

Item #	Joint	Hose O.D. (mm)
A291420	14/20	8
A291922	19/22	8
A292440	24/40	10
A292942	29/42	10


**ADAPTER, VACUUM/GAS, BALL JOINT**

With a 35/20 ball joint and an 8mm hose connection.

Item #	Joint
A293520	35/20


**ADAPTER, VACUUM/INERT GAS, 90°**

With a 90° hose connection on the top and a male joint.

Item #	Joint	Hose Connection O.D. (mm)
A921420	14/20	8
A921922	19/22	8
A922440	24/40	10


**ADAPTER, VACUUM, 90° OUTER JOINT**

With a 90° hose connection on the top and a female joint.

Item #	Joint	Hose Connection O.D. (mm)
A951420	14/20	8
A951922	19/22	8

#### ADAPTER, VACUUM OR ARGON (NITROGEN)

With a hose connection on the top and a male joint.

Item #	Joint	Hose O.D. (mm)
A301420	14/20	8
A301922	19/22	8
A302440	24/40	10
A302942	29/42	10



#### ADAPTER, INLET

With an extra coarse fritted disc to prevent solids from being introduced into the reaction system during liquid transfer.

Item #	Joint	Height (mm)
A831420	14/20	65
A831922	19/22	67
A832440	24/40	95



#### ADAPTER, VACUUM, OUTER JOINT

Ideal for use as a vent or for the introduction of pressure/vacuum.

Item #	Joint	Hose O.D. (mm)
A321420	14/20	8
A322440	24/40	10



#### ADAPTER, TWIN CONNECTING HOSE

Adapter has two hose connections 180° from one another to permit a flow of inert gas over the apparatus.

Item #	Joint	Hose O.D. (mm)
A341420	14/20	8
A341922	19/22	8
A342440	24/40	10
A342942	29/42	10






**ADAPTER, VACUUM, WITH 1:5 TEFLON® STOPCOCK**

With an 8mm O.D. hose connection and a 2mm Teflon® stopcock.

Item #	Joint
A381420	14/20
A381922	19/22
A382440	24/40
<b>Accessory:</b>	
S181125	Replacement 2mm Teflon® Plug Only


**ADAPTER, VACUUM, PTFE STOPCOCK**

Used to regulate the flow of gases or liquids into reaction systems. Teflon® stopcock has a bore of 2mm. With a standard taper inner joint.

Item #	Joint	Stopcock Bore (mm)
A701420	14/20	2
A701922	19/22	2
A702440	24/40	2
<b>Accessory:</b>		
S181125	Replacement 2mm Teflon® Plug Only	


**ADAPTER, OUTER JOINT, PTFE STOPCOCK**

For regulating the flow of gases or liquids into reaction systems. Stopcock has a bore of 2mm. With a standard taper outer joint.

Item #	Joint	Stopcock Bore (mm)
A711420	14/20	2
A711922	19/22	2
A712440	24/40	2
<b>Accessory:</b>		
S181125	Replacement 2mm Teflon® Plug Only	


**ADAPTER, VACUUM, GLASS STOPCOCK, 90°**

Used to regulate the flow of gases or liquids into reaction systems. Stopcock has a bore of 2mm.

Item #	Joint	Stopcock Bore (mm)
A751420	14/20	2
A751922	19/22	2
A752440	24/40	2
<b>Accessory:</b>		
S461230	Replacement 2mm Glass Plug Only	
S691230	Replacement S.S. Retention for 2mm Glass Stopcock	

#### ADAPTER, VACUUM, GLASS STOPCOCK

Used to regulate the flow of gases or liquids into reaction systems.  
Stopcock has a bore of 2mm.

Item #	Joint	Stopcock Bore (mm)
A611420	14/20	2
A611922	19/22	2
A612440	24/40	2
<b>Accessory:</b>		
S461230	Replacement 2mm Glass Plug Only	
S691230	Replacement S.S. Retention for 2mm Glass Stopcock	



#### ADAPTER, OUTER JOINT, GLASS STOPCOCK

For regulating the flow of gases or liquids into reaction systems.  
With an 8mm or 10mm hose connection.

Item #	Joint	Stopcock Bore (mm)
A691420	14/20	2
A692440	24/40	2
<b>Accessory:</b>		
S461230	Replacement 2mm Glass Plug Only	
S691230	Replacement S.S. Retention Kit 2mm Glass Stopcock	



#### ADAPTER, FLUSHING

With a 2mm T-bore PTFE stopcock.

Item #	Joint	Stopcock Type
A681420	14/20	Teflon
A681922	19/22	Teflon
A682440	24/40	Teflon
A681420G	14/20	Glass
A681922G	19/22	Glass
A682440G	24/40	Glass
<b>Accessory:</b>		
S201530	2mm Teflon® T-bore Stopcock Plug	
S510217	Replacement "T"- bore Glass Plug, 2mm Hole	
S691230	Replacement S.S. Retention Kit for 2mm Glass Stopcock	





### ADAPTER, VACUUM/INERT GAS

With a 4mm T-bore glass stopcock having constant pressure retention device or a 2mm T-bore 1:5 taper Teflon® plug.

Item #	Joint	Stopcock Type
A881420G	14/20	Glass
A882440G	24/40	Glass
A881420	14/20	Teflon
A882440	24/40	Teflon
<b>Accessories:</b>		
S201530	2mm Teflon "T"bore Stopcock Plug	
S511740	4mm Glass "T"-bore Stopcock Plug	
S691740	Replacement S.S. Retention for 4mm Glass Stopcock	



### ADAPTER, THERMOMETER

With a 10/30 thermometer joint. Angled for use in multiple neck flasks.

Item #	Joint
A162440	24/40



### INLET ADAPTER

With an elongated inlet tube.

Item #	Joint	Hose O.D. (mm)	Tube Length (mm)
A314075	24/40	10	75
A314250	24/40	10	250

#### ADAPTER, FLOW CONTROL, METERING STOPCOCK, 90°

Provides on/off control with the main valve. Allows delivery of preset volumes of gases or liquids to reactions using the needle valve.

Item #	Joint	Stopcock Bore (mm)
A721420	14/20	2
A721922	19/22	2
A722440	24/40	2
<b>Accessory:</b>		
S191125	Replacement 2mm Teflon® Metering Plug	



#### ADAPTER, FLOW CONTROL, METERING STOPCOCK

Adapter has a 2mm Teflon® metering stopcock between the top outer and lower inner standard taper joints, to permit flow control of fluids between apparatus.

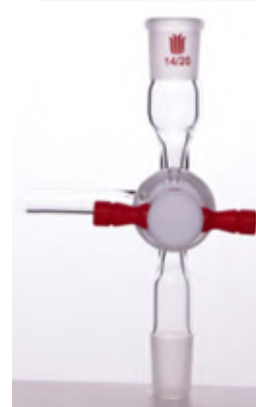
Item #	Joint	Stopcock Bore (mm)
A732440	24/40	2
<b>Accessory:</b>		
S191125	Replacement 2mm Teflon® Metering Plug	



#### ADAPTER, FLUSHING

With a 2mm T-bore PTFE stopcock

Item #	Joint
A761420	14/20
A762440	24/40
<b>Accessory:</b>	
S201530	2mm Teflon "T"-bore Stopcock Plug



#### ADAPTER, CONNECTING

With a 2mm Teflon stopcock. Converts standard vessels to airless applications.

Item #	Joint
A192424	24/40
<b>Accessory:</b>	
S181125	Replacement 2mm Teflon® Plug Only





### ADAPTER, VACUUM TRANSFER

With a 2mm Teflon® stopcock. For transfer of sensitive and hazardous solutions.

Item #	Joint
A121420	14/20
A121922	19/22
A122440	24/40
<b>Accessory:</b>	
S181125	Replacement 2mm Teflon® Plug Only



### ADAPTER, INLET WITH HOSE CONNECTION

With vacuum take-off and drip tip.

Item #	Joint	Hose O.D. (mm)
A431420	14/20	8
A431922	19/22	8
A432440	24/40	10



### ADAPTER, VACUUM

With a 2mm straight-bore PTFE or glass stopcock.

Item #	Joint	Stopcock Type
A741420	14/20	Teflon
A741922	19/22	Teflon
A742440	24/40	Teflon
A741420G	14/20	Glass
A741922G	19/22	Glass
A742440G	2440	Glass
<b>Accessory:</b>		
S181125	Replacement 2mm Teflon® Plug Only	
S461230	Replacement 2mm Glass Plug Only	
S691230	Replacement S.S. Retention Kit for 2mm Glass Stopcock	





#### ADAPTER, DISTILLATION, BENT, 105°

Also used as rotary evaporator washer. When filled with ethanol or Acetone, and suddenly, with finger released, the mashing solvent is sprayed into the rotavapor condenser and thus cleans the entire system. Very simple and handy.

Item #	Joint
A412440	24/40



#### ADAPTER, DISTILLING, 105°

With an outer joint at the top. Tapered drip tube extends into open receivers.

Item #	Joint	Height * Width (mm)
A961922	19/22	90×60
A962440	24/40	141×105



#### GROUND JOINT, REDUCED DIAMETER, EXTENDED, DRIP TUBE

Inner joint with a sealed on lower tube extending 6" below the grind. Has the same O.D. tubing on both ends of the grind.

Item #	Joint	Length Below Joint (mm)	Tubing O.D. (mm)
A501420	14/20	153	8
A501922	19/22	153	10
A502440	24/40	153	12



#### ADAPTER, TRANSFER VALVE

The 0-4mm high vacuum valve has two Viton® O-rings on the shaft and an integral PTFE O-ring on the tip.

Item #	Joint	Overall Height × Width (mm)
A391420	14/20	150×75
A392440	24/40	180×75
<b>Accessory:</b>		
S600004T	04mm PTFE Protected High Vacuum (Fully Enclosed)	




**ADAPTER, DRYING TUBE, "U" SHAPED**

With a tapered joint. Cotton is usually used to contain drying agent.

Item #	Joint
A851420	14/20
A851922	19/22
A852440	24/40


**ADAPTER, DRYING TUBE, STRAIGHT**

With top and bottom joints.

Item #	Joint
A861420	14/20
A861922	19/22
A862440	24/40


**ADAPTER, DRYING TUBE, 75°**

Angled at 75° to avoid desiccant contact with reactions.

Item #	Joint	Price (each)
A871420	14/20	27.21
A871922	19/22	29.40
A872440	24/40	37.77


**ADAPTER, DISTILLATION CONNECTING**

For use as a component in atmospheric or vacuum distillations.

Item #	Top Joint	Bottom Joint	Side Joint	Immersion (Bottom of Top Joint to Bottom of Side Hole) (mm)
A351014	10/18	14/20	14/20	50
A351019	10/18	19/22	19/22	50
A351024	10/18	24/40	24/40	76
A351420	14/20	14/20	14/20	76
A351922	19/22	19/22	19/22	76
A352440	24/40	24/40	24/40	76
A351424	14/20	24/40	24/40	76
A354914	14/20	24/40	19/22	76

### THERMOMETER, WITH 10/18 JOINT

Immersion length is measured from the bottom of the 10/18 joint to lower end of kerosene bulb. Accuracy is  $\pm 1^{\circ}\text{C}$ .

Item #	Immersion (mm)	Range ( $^{\circ}\text{C}$ )
T162511	25	-20 to 110
T162525	25	20 to 250
T165011	50	-20 to 110
T165025	50	-20 to 250
T167611	76	20 to 110
T167625	76	-20 to 250



### ADAPTER, DISTILLING, 75°

With a compression cap (RC009) and a Viton® O-ring for forming a vacuum tight seal of a plain thermometer.

Item #	Joint	Height x Width (mm)
A971420	14/20	110*55
A971922	19/22	110*55
A972440	24/40	155*100
<b>Accessories:</b>		
RC009	Nylon® cap	
R107	Replacement Viton® Orings, size 107	



### ADAPTER, DISTILLING, BENT, 105°

With an inner drip joint at the bottom and an outer joint at the top.

Item #	Top Joint	Bottom Joint
A891420	14/20	14/20
A891922	19/22	19/22
A892440	24/40	24/40



### ADAPTER, INLET, LONG STEM

With a standard taper outer top and lower inner joints with a sealed in lower tube extending below the inner joint

Item #	Joint	Tube Length Below Joint (mm)
A651420	14/20	100
A652440	24/40	200




**ADAPTER, VACUUM TAKE-OFF, SHORT STEM**

With a hose connection and a drip tip.

Item #	Joint	Hose Connection (mm)
A621420	14/20	8
A621922	19/22	8
A622440	24/40	10
A622942	29/42	10


**ADAPTER, DISTILLATION HEAD**

Vacuum jacketed. The 10/18 top joint accommodates a 76mm immersion thermometer.

Item #	Top Joint	Other Joint
A542440	10/18	24/40
<b>Accessory:</b>		
T167625	76mm Immersion Thermometer 20 °C to 250 °C	


**ADAPTER, DISTILLATION CONNECTING, VIGREUX**

Accommodates a 76mm immersion thermometer.

Item #	Top Joint	Bottom Joint	Side Joint
A131024	10/18	24/40	24/40
<b>Accessory:</b>			
T167625	76mm Immersion Thermometer 20 °C to 250 °C		


**ADAPTER, DISTILLATION**

With a threaded thermometer port. Supplied with a Nylon cap (RC009) and Viton O-ring (R107) to accommodate a 6-7.5mm O.D. plain thermometer.

Item #	Joint
A901420	14/20
A901922	19/22
A902440	24/40
<b>Accessory:</b>	
RC009	Nylon <sup>®</sup> cap
R107	Replacement Viton <sup>®</sup> Orings, size 107

### ADAPTER, DISTILLATION

With a 10/18 joint on the vertical side tube for a 76mm immersion thermometer.

Item #	All Joints	Thermometer Joint
A362410	24/40	10/18
<b>Accessory:</b>		
T167625	76mm Immersion Thermometer	



### ADAPTER, CLAISEN

Provides dual entry into a variety of flasks.

Item #	Joint
A371420	14/20
A371922	19/22
A372440	24/40
A372942	29/42



### ADAPTER, CONNECTING

Three-arm design for the assembly of three vessels.

Item #	Joint
A331420	14/20
A332440	24/40



### ADAPTER, CLAISEN

Three-inlet type for multiple entries into a single neck flask. One side joint is at a 45° angle.

Item #	Joint
A111420	14/20
A112440	24/40







### ADAPTER, CONNECTING

Three-arm design for the assembly of three vessels.

Item #	Joint
A101420	14/20
A102440	24/40



### ADAPTER, BENT, 75°

With inner joints at each end.

Item #	Joint
A151420	14/20
A151922	19/22
A152440	24/40



### ADAPTER, VACUUM FILTRATION

Used with a plain stem Buchner funnel and pluro-stopper. Hose Connection has an O.D. of 10mm at the largest serration. Order pluro-stoppers separately.

Item #	Lower Joint	Plurostopper Size	Fits Funnel Capacity
A841420	14/20	#1	2 to 20
A842415	24/40	#3	15 to 150
A842440	24/40	#5 or #6	350 to 5000



### ADAPTER, WITH MINERAL OIL BUBBLER

With a 10mm O.D. hose connection.

Item #	Joint
A402440	24/40

#### ADAPTER, KJELDAHL TRAP

Distance between joints is 100mm. Useful in the sub-boiling separation of mixtures having volatile components.

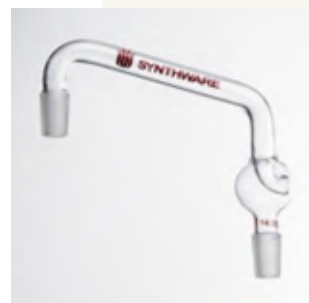
Item #	Joint	Hose O.D. (mm)
A491420	14/20	8



#### ADAPTER, KJELDAHL TRAP

Distance between center of joints is approximately 200mm.

Item #	Joint
A172440	24/40



#### ADAPTER, ANTI-CLIMB

Bump Trap – Trap provides expanded volume for reactions that have a tendency to foam excessively. The inner vapor tube is sealed to the top of the trap to prevent entry into the condenser.

Item #	Top Joint	Bottom Joint	Capacity (mL)
A272414	24/40	14/20	100
A272419	24/40	19/22	100
A274100	24/40	24/40	100
A272250	24/40	14/20	250
A274250	24/40	24/40	250
A279450	29/42	24/40	250



#### ADAPTER, DISTILLING TRAP

Bump Trap – Adapter is placed above flask to prevent carry-over of reactions which have a tendency to foam.

Item #	Upper Joint	Lower Joint	Capacity (mL)
A262414	24/40	14/20	100
A262419	24/40	19/22	100
A264100	24/40	24/40	100



### ADAPTER, ANTI-SPLASH

Bump Trap - This design prevents possible contamination from the rotary evaporator. No drain holes.



Item #	Upper Joint	Lower Joint	Capacity (mL)
A282414	24/40	14/20	100
A282419	24/40	19/22	100
A282424	24/40	24/40	100
A282914	29/42	14/20	100
A282924	29/42	24/40	100
A281250	24/40	14/20	250
A289250	24/40	19/22	250
A284250	24/40	24/40	250
A282250	29/42	24/40	250
A288250	29/42	24/40	250



### ADAPTER, ANTI-SPLASH WITH FRITTED DISC

Bump Trap – Similar to A28- series except with an extra coarse fritted disc sealed above the lower inner joint. The frit reduces foam from being carried over. No drain holes – with frit.

Item #	Top Joint	Bottom Joint	Capacity (mL)
A232414	24/40	14/20	100
A232419	24/40	19/22	100
A232424	24/40	24/40	100
A231250	24/40	14/20	250
A234250	24/40	24/40	250

### ADAPTER, ANTI-SPLASH, MODIFIED

Bump Trap – Self-washing, Rotary Evaporator. With two 4mm drain holes at the base of the inner tube to allow solvents to drain back into the evaporation flask. No frit – with drain holes.



Item #	Upper Joint	Lower Joint	Capacity (mL)
A602414	24/40	14/20	100
A602419	24/40	19/22	100
A602424	24/40	24/40	100
A602914	29/42	14/20	100
A602924	29/42	24/40	100
A601250	24/40	14/20	250
A604250	24/40	24/40	250

### ADAPTER, ANTI-SPLASH, WITH FRITTED DISC (MODIFIED)

Bump Trap – Self-washing, Rotary Evaporator.

Similar to A60- series except with an extra coarse fritted disc sealed above the lower inner joint. Frit reduces foam overflow from being drawn into the condenser. With two 4mm drain holes and frit.

Item #	Upper Joint	Lower Joint	Capacity (mL)
A462414	24/40	14/20	100
A462424	24/40	24/40	100
A461250	24/40	14/20	250
A464250	24/40	24/40	250



### VAPOR DUCT, ROTARY EVAPORATOR

Precision ground and polished. Meets manufacturer standards.

Item #	Model Type	Joint
V222440	Ika	24/40
V222440H	Heidolph	24/40



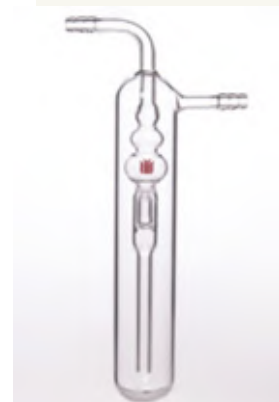
### BUBBLER, MINERAL OIL

With a 10mm O.D. hose connection.

Item #	Body O.D. (mm)	Overall Height × Width (mm)
B257040	26	185*80
B257040L	26	500*80



Item #	Body O.D. (mm)	Overall Height × Width (mm)
B257040D	32	220*92



\*HAS ANTI-SYPHON IN THIS PRODUCT.



### RAPID PURGE VALVE

An efficient purge valve that allows rapid 100% replacement of air in a manifold or reaction vessel, with an inert gas, such as Nitrogen. No need to watch manometers, hand control gas flow, or install warning systems to prevent accidents. Expensive gases are conserved. Once purging is complete, the flow can be cut to almost zero. Overall dimensions are 150mm high x 165mm wide. Hose connections have an O.D. of 11mm at the largest serration. Supplied complete with instructions, but not oil. B241656G has the high vacuum valve on the underside of the apparatus. B241656 has the vacuum valve on the side of the apparatus.

Item #	Valve Size	Overall Size	Hose Connection O.D.
B241656G	04mm	150mm x 165mm	11mm
B241656	04mm	150mm x 165mm	11mm



### BUBBLER

With small ball joints to prevent mineral oil being sucked back under sudden negative pressure in the system.

Item #	Top Joint	Bottom Joint	Length (mm)
B262914	29/42	14/20	157
B262924	29/42	24/40	157
<b>Accessory:</b>			
S181125	Replacement 2mm Teflon® Plug Only		



### BUBBLER

With small ball joints to prevent mineral oil being sucked back under sudden negative pressure into the system.

Item #	Top Joint	Bottom Connection	Length (mm)
B262910	29/42	10mm Hose Connection	157
<b>Accessory:</b>			
S181125	Replacement 2mm Teflon® Plug Only		



#### BOTTLE, GAS WASHING, FRITTED

Gas washing bottle with standard taper 45/50 cap style stopper And a fritted disc angled at 15° for even distribution of gas throughout absorbing material. Available with a coarse or extra coarse fritted disc. Order plastic clip separately (NOT SUPPLIED).

Item #	Capacity (mL)	Approx. Height (mm)	Porosity
B300125C	125	290	C
B300125X	125	290	X
B300250C	250	305	C
B300500C	250	380	C
B300500X	500	380	XC
<b>Replacement Components:</b>			
CS004550	Plastic Clamp, 45/50		



#### BOTTLE, GAS WASHING, FRITTED

Gas washing bottle with an extra-large diameter (60mm) fritted disc sealed into the bottom of the bottle to enable increased gas throughout and uniform gas distribution. Available with coarse fritted disc. The 24/40 standard taper top outer joint accepts an A292440 gas inlet adapter which is supplied with the bottle.

Item #	Capacity (mL)	Approx. Height (mm)	Porosity
B310350C	350	250	C
<b>Replacement Components:</b>			
A292440	Adapter, 24/40 Gas Inlet Adapter, 8mm Hose Connection		
CS002440	24/40 Joint Clip, Plastic		



### COLUMN, DISTILLING, VIGREUX

Column length is measured from the highest to lowest indent in the column.



Item #	Indentation Length (mm)	Upper Joint	Lower Joint
C101075	75	14/20	14/20
C101100	100	14/20	14/20
C101420	120	14/20	14/20
C101922	120	19/22	19/22
C109130	130	19/22	19/22
C102441	120	24/40	24/40
C104150	150	24/40	24/40
C102442	200	24/40	24/40
C102443	300	24/40	24/40



### CONDENSER, DISTILLATION, VACUUM, JACKETED

With 12mm I.D. indentations to support packing material. Vacuum jacketed to improve performance.

Item #	Joint	Jacket Height (mm)
C161100	14/20	130
C164250	24/40	250



### DISTILLING COLUMN PACKING

Particle type mini-glass coils packing and can be "poured" into any laboratory or pilot scale column. Easily removed for replacement or cleaning. Approximately: 1,850 pcs/pack (0.5 liters/500g/pack)

Item #	Material	Size O.D. X L (mm)
D240001	Glass	4*12

### CONDENSER, DISTILLATION

Indentations at the bottom for supporting packing material.

Jacket permits the column to be used as a condenser.

Item #	Joint	Jacket Height (mm)	Column Overall Height (mm)
C171120	14/20	110	180
C171200	14/20	200	280
C179110	19/22	110	200
C179200	19/22	200	280
C174200	24/40	200	330



### CONDENSER, DISTILLATION, REMOVABLE HOSE CONNECTIONS

Indentations at the bottom for supporting packing material.

Jacket permits the column to be used as a condenser.

Item #	Joint	Jacket Height (mm)	Column Overall Height (mm)
C571120	14/20	110	180
C571200	14/20	200	280
C579110	19/22	110	200
C574200	24/40	200	330
<b>Accessories:</b>			
RC14	#14 Nylon Cap with 9.5mm Hole		
R201402	Replacement Hose Connection - Straight		



### CONDENSER, COLD FINGER, WITH DRIP TIP

Extended offset lower tip for drip control.

Item #	Joint	Length Below Joint (mm)	Hose O.D. (mm)
C111420	14/20	100	8
C114150	24/40	150	10
C114200	24/40	200	10
C114250	24/40	250	10




**CONDENSER, FRIEDRICHS, WITH 24/40 JOINT**

With a joint at 15° angle.

Item #	Top Joint	Bottom Joint	Overall Height (mm)
C212440	24/40	24/40	330
C214550	24/40	45/50	340


**CONDENSER, FRIEDRICHS, REMOVABLE HOSE CONNECTIONS**

With a joint at a 15° angle. Supplied complete with a Nylon cap and hose connections.

Item #	Top Joint	Bottom Joint	Overall Height (mm)	Hose Connection (mm)
C272440	24/40	24/40	330	10
<b>Accessories:</b>				
RC14		#14 Nylon Cap with a 9.5mm Hole		
R201402		Replacement Hose Connection Straight		


**CONDENSER, FRIEDRICHS**

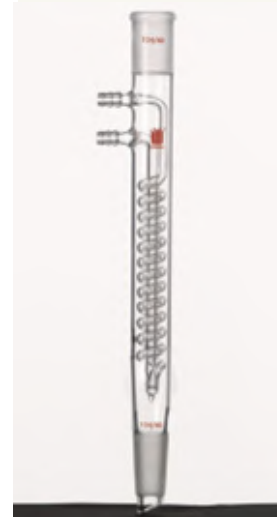
With hose connections.

Item #	Joint	Overall Height (mm)	Hose Connection (mm)
C232440	24/40	330	10

### CONDENSER, REFLUX

Coil style reflux condenser with tightly wrapped coil providing maximum cooling. Excellent for use with volatile solvents. Condenser has a top outer standard taper joint and lower inner drip tip joint. Hose connections have an O.D. of 8mm or 10mm at the middle serration.

Item #	Jacket Length (mm)	Joint	Overall Height (mm)	Hose Connection (mm)
C261100	100	14/20	205	8
C262280	180	14/20	305	8
C269100	100	19/22	205	8
C264125	125	24/40	275	10
C264175	175	24/40	325	10
C264225	225	24/40	375	10
C264275	275	24/40	425	10



### CONDENSER, REFLUX, REMOVABLE HOSE CONNECTIONS

Coil style reflux condenser with tightly wrapped coil providing maximum cooling. Excellent for use with volatile solvents. Condenser has a top outer standard taper joint and lower inner drip tip joint.

Item #	Jacket Length (mm)	Joint	Overall Height (mm)	Hose Connection (mm)
C561100	100	14/20	210	8
C562280	180	14/20	305	8
C564125	125	24/40	285	8
C564175	175	24/40	335	8
C564225	225	24/40	375	8
<b>Accessories:</b>				
RC14	#14 Nylon® Cap with a 9.5mm Hole			
R201402	Replacement Hose ConnectionStraight			



### CONDENSER, COILED

With joints at top and bottom.

Item #	Jacket Length (mm)	Joint	O.D. Hose Connection (mm)
C121100	100	14/20	8
C121120	120	14/20	8
C129200	200	19/22	8
C124200	200	24/40	10
C124300	300	24/40	10
C124400	400	24/40	10





### CONDENSER, COILED, REMOVABLE HOSE CONNECTIONS

With joints at top and bottom.

Item #	Jacket Length (mm)	Joint	O.D. Hose Connection (mm)
C524200	200	24/40	10
C524300	300	24/40	10
C524400	400	24/40	10
C528300	300	29/42	10
<b>Accessories:</b>			
RC14	#14 Nylon® Cap with a 9.5mm Hole		
R201402	Replacement Hose Connection Straight		



### CONDENSER, GRAHAM

With hose connections.

Item #	Joint	Jacket Length (mm)	O.D. Hose Connection (mm)
C141120	14/20	120	8
C149200	19/22	200	8
C144200	24/40	200	8
C144250	24/40	250	10
C144300	24/40	300	10
C144400	24/40	400	10



### CONDENSER, REFLUX, LARGE COOLING CAPACITY

Jacket has an O.D. of 40mm while coil O.D. is 8mm to provide maximum cooling capacity.

Item #	Coil Length (mm)	Joint	Overall Height (mm)	Hose Connection (mm)
C314125	125	24/40	300	10
C314175	175	24/40	350	10



**CONDENSER, REFLUX, LARGE COOLING CAPACITY,  
REMOVABLE HOSE CONNECTIONS**

Jacket has an O.D. of 40mm while coil O.D. is 8mm to provide maximum cooling capacity.

Item #	Coil Length (mm)	Joint	Overall Height (mm)	Hose Connection (mm)
C534125	125	24/40	300	8
<b>Accessories:</b>				
RC14	#14 Nylon Cap with a 9.5mm Hole			
R201402	Replacement Hose Connection Straight			



**CONDENSER, REFLUX**

Coil section is 100mm in height

Item #	Joint
C351420	14/20
C351922	19/22




**CONDENSER, ALLIHN**

With joints at the top and the bottom.

Item #	Jacket Length (mm)	Joint	O.D. Hose Connection (mm)
C251120	120	14/20	8
C259200	200	19/22	8
C259300	300	19/22	8
C251200	200	24/40	10
C254300	300	24/40	10
C254400	400	24/40	10
C255300	300	29/42	10
C255400	400	29/42	10


**CONDENSER, ALLIHN, REMOVABLE HOSE CONNECTIONS**

With joints at the top and the bottom.

Item #	Jacket Length (mm)	Joint	O.D. Hose Connection (mm)
C621120	120	14/20	8
C621200	200	24/40	8
C624300	300	24/40	8
C624400	400	24/40	10
C625300	300	29/42	10
<b>Accessories:</b>			
RC14	#14 Nylon Cap with a 9.5mm Hole		
R201402	Replacement Hose Connection Straight		


**CONDENSER WEST, REMOVABLE HOSE CONNECTIONS**

With narrow annular space for high cooling efficiency.

Item #	Joint	Jacket Length (mm)
C551110	14/20	110
C550190	14/20	190
C554100	24/40	100
C551190	24/40	190
C554200	24/40	200
C554300	24/40	300
<b>Accessories:</b>		
RC14	#14 Nylon® Cap with a 9.5mm Hole	
R201402	Replacement Hose Connection Straight	

### CONDENSER WEST

With narrow annular space for fast coolant speed, thus high cooling efficiency.

Item #	Joint	Jacket Length (mm)
C151110	14/20	110
C150190	14/20	190
C151200	14/20	200
C159190	19/22	190
C159200	19/22	200
C154100	24/40	100
C151190	24/40	190
C154200	24/40	200
C154300	24/40	300



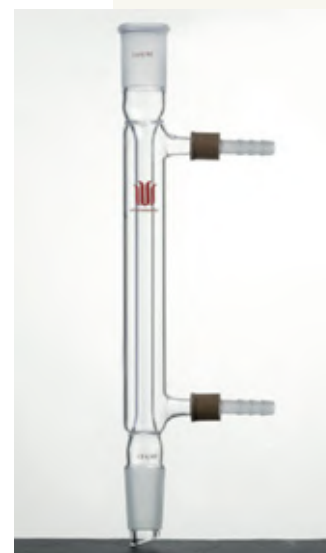
### CONDENSER, LIEBIG, REMOVABLE HOSE CONNECTIONS

With joints at the top and the bottom.

Item #	Jacket Length (mm)	Joint	O.D. Hose Connection (mm)
C501120	120	14/20	8
C509180	180	19/22	8
C509300	300	19/22	8
C504200	200	24/40	8
C504250	250	24/40	8
C504300	300	24/40	8
C504400	400	24/40	8
C504500	500	24/40	8

#### Accessories:

RC14	#14 Nylon Cap with a 9.5mm Hole
R201402	Replacement Hose Connection Straight



### CONDENSER, LIEBIG

With joints at the top and the bottom.

Item #	Jacket Length (mm)	Joint	O.D. Hose Connection (mm)
C201120	120	14/20	8
C209180	180	19/22	8
C209300	300	19/22	8
C204100	100	24/40	10
C204200	200	24/40	10
C204250	250	24/40	10
C204300	300	24/40	10
C204400	400	24/40	10
C204500	500	24/40	10





### CONDENSER, DEWAR, MICRO

Side joint is at a 90° angle.

Item #	Inside Depth (mm)	I.D. (mm)	Joint
C341014	90	31	14/20



### CONDENSER, FOR ROTARY EVAPORATORS

Double coiled condenser for use with Buchi rotary evaporators. For cooling with tap water in a diagonal position. Has a 19/38 top valve with a 35/20 spherical ball joint.

Item #	Description
C910200	Rotary Evaporator Condenser, Diagonal Style
<b>Accessories:</b>	
C910001	Inlet Feed Tube
RC14	Nylon Cap for Water Inlet/Outlet
R201402	Replacement Nylon Hose Connection Straight with Oring (Used with RC14 Cap)
RC1	Thread Cap for GL10
R008	Oring, I.D. 4.5mm × Width 1.78mm



### CONDENSER, FOR ROTARY EVAPORATOR, UPRIGHT STYLE

For vertical style of Heidolph Rotary Evaporators.

Item #	Description
C900200	Rotary Evaporator Condenser, Vertical Style
<b>Accessories:</b>	
C900001	Inlet Feed Tube, 19/38 Joint
RC14	Nylon cap for Water Inlet/Outlet
R201402	Replacement Nylon Hose Connection-Straight with O-ring (Used with RC14 Cap)
RC18	Nylon Cap for Vacuum
R201801	Replacement Nylon Hose Connection-Straight, with O-ring (Used with RC18 Cap)

### FLASK, DEWAR, LOW FORM, HEMISPHERICAL

Flask size shown is the maximum capacity flask that will fit inside the Dewar. With aluminum housing to transfer magnetic field.

Item #	Fits Flask Sizes (mL)	Exterior Dimensions in Height x Width (mm)	Dimensions, Depth x Diameter (mm)
F240100	100	93×110	65×80
F240250	250	108×142	75×100
F240500	500	120×163	85×123
F241000	1000	130×180	100×143

**\*Due to extra high vacuum, the Dewar flasks still have a rare possibility to explode, so working behind a safety shield in hood and always wearing goggles are strongly recommended.**



### FLASK, DEWAR, WIDE MOUTH, METAL HOUSING

Dewar flask with weighted metal base for stability and with a full-length aluminum housing which extends to the top rim for added protection.

Item #	Overall Capacity (mL)	Exterior Dimensions in Height x Width (mm)	Interior Dimensions in Depth x Diameter (mm)
F110350	350	195×100	125×70
F110665	665	265×100	195×70
F111000	1000	375×100	302×70
F111900	1900	256×160	190×120
F111900 L	3500	376×160	305×120
F114300	4300	376×178	305×143

**\*Due to extra high vacuum, the Dewar flasks still have a rare possibility to explode, so working behind a safety shield in hood and always wearing goggles are strongly recommended.**





### CHROMATOGRAPHY FLOW CONTROL ADAPTER

0-4mm high vacuum valve with metering tip to adjust air pressure. With standard taper joint. Order CC3525 pinch clamps with screw-locking device for ball joints. For replacement O-rings on high vacuum plug shaft, order R010. The O-rings on the high vacuum PTFE valve are completely encapsulated with a thin layer of PTFE, making it inert to chemicals.

Item #	Joint Size
C1301	35/20
C1324	24/40
<b>Accessories:</b>	
S660004T	04mm High Vacuum Metering Plug and Control Knob. (PTFE Oring at Tip)
R010	Replacement Viton® Orings, Size 010 for 04mm High Vacuum Plug Shaft Oring
CC3525	Clamps for 35/20 or 35/25 Ball Joint
CS002440	Plastic Clamp for 24/40 Joint

**\*Since the chromatography column is used with positive air pressure, It's highly recommended that operator uses the column behind a safety shield.**



### CHROMATOGRAPHY RESERVOIR

For flash chromatography

Item #	Joint	Capacity (mL)
C184100	24/40	100
C182402	24/40	250
C182403	24/40	500
C193502	35/20	250
C193503	35/20	500
<b>Accessories:</b>		
CC3525	S.S. Clamps for 35/20 or 35/25 Ball Joint	
CS002440	Plastic Clamp for 24/40 Joint	



### CHROMATOGRAPHY COLUMN, HEAVY WALL DESIGN

General purpose column has a Teflon® stopcock and a top outer joint.

For flash chromatography. All Kemtech columns are heavy wall designed to increase safety.

Item #	Column O.D. (mm)	Column I.D. (mm)	Effective Length Inch (mm)	Joint	Stopcock Bore (mm)
C184171	17	13.4	8(203)	24/40	2
C184172	17	13.4	10(254)	24/40	2
C184173	17	13.4	12(305)	24/40	2
C184261	26	20.0	8(203)	24/40	2
C184262	26	20.0	10(254)	24/40	2
C184263	26	20.0	12(305)	24/40	2
C184264	26	20.0	18(457)	24/40	2
C184321	32	26.0	8(203)	24/40	2
C184322	32	26.0	10(254)	24/40	2
C184323	32	26.0	12(305)	24/40	2
C184324	32	26.0	18(457)	24/40	2
C184461	46	40.0	8(203)	24/40	2
C184462	46	40.0	10(254)	24/40	2
C184463	46	40.0	12(305)	24/40	2
C184464	46	40.0	18(457)	24/40	2
C184603	60	53.0	12(305)	24/40	2
C184604	60	53.0	18(457)	24/40	2
C184605	60	53.0	24(610)	24/40	2

#### Accessories:

CS002440	Plastic Clamp for 24/40 Joint
S181125	Replacement 2mm Teflon Plug Only

**\*Since the chromatography column is used with positive air pressure, it's highly recommended that operator uses column behind a safety shield.**



### TLC DEVELOPING TANKS-CYLINDRICAL

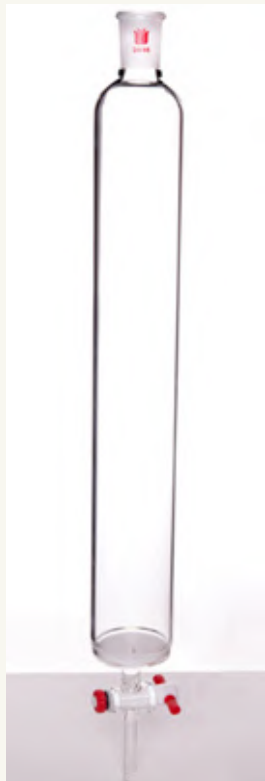
Made of glass with lid. Compact size offers good plate visibility and minimal solvent use.

Item #	OD*H (mm)	Joint
T216105	65*105	60/12
T216205	65*205	60/12



### CHROMATOGRAPHY COLUMN, HEAVY WALL DESIGN

General purpose column has a Teflon® stopcock and a top outer joint. With a coarse porosity fritted disc to support column packing. The section below the disc is carefully minimized to prevent re-mixing of components already separated. All Kemtech columns are heavy wall designed to increase safety.



Item #	Column O.D. (mm)	Column I.D. (mm)	Effective Length Inch (mm)	Joint	Stopcock Bore (mm)
C184171C	17	13.4	8(203)	24/40	2
C184172C	17	13.4	10(254)	24/40	2
C184173C	17	13.4	12(305)	24/40	2
C184261C	26	20.0	8(203)	24/40	2
C184262C	26	20.0	10(254)	24/40	2
C184263C	26	20.0	12(305)	24/40	2
C184264C	26	20.0	18(457)	24/40	2
C184321C	32	26.0	8(203)	24/40	2
C184322C	32	26.0	10(254)	24/40	2
C184323C	32	26.0	12(305)	24/40	2
C184324C	32	26.0	18(457)	24/40	2
C184461C	46	40.0	8(203)	24/40	2
C184462C	46	40.0	10(254)	24/40	2
C184463C	46	40.0	12(305)	24/40	2
C184464C	46	40.0	18(457)	24/40	2
C184602C	46	40.0	10(254)	24/40	2
C184603C	60	53.0	12(305)	24/40	2
C184604C	60	53.0	18(457)	24/40	2
C184605C	60	53.0	24(610)	24/40	2
<b>Accessories:</b>					
CS002440	Plastic Clamp for 24/40 Joint				
S181125	Replacement 2mm Teflon Plug Only				

**\* Since the chromatography column is used with positive air pressure, it's highly recommended that the operator uses column behind a safety shield.**

## COLUMN, CHROMATOGRAPHY WITH RESERVOIR

With 24/40 outer joint at top. All Kemtech columns are heavy wall designed to increase safety.

Item #	Column O.D. (mm)	Column I.D. (mm)	Effective Length Inch (mm)	Joint	PTFE Stopcock Bore (mm)	Capacity of Reservoir (mL)
C371720	17	13.4	8(203)	24/40	2	100
C371730	17	13.4	12(305)	24/40	2	100
C371740	17	13.4	18(457)	24/40	2	250
C372620	26	20.0	8(203)	24/40	2	250
C372625	26	20.0	10(254)	24/40	2	250
C372630	26	20.0	12(305)	24/40	2	250
C372640	26	20.0	18(457)	24/40	2	500
C373220	32	26.0	8(203)	24/40	2	500
C373225	32	26.0	10(254)	24/40	2	500
C373230	32	26.0	12(305)	24/40	2	500
C373240	32	26.0	18(457)	24/40	2	500
C374620	46	40.0	8(203)	24/40	2	500
C374625	46	40.0	10(254)	24/40	2	500
C374630	46	40.0	12(305)	24/40	2	500
C374640	46	40.0	18(457)	24/40	2	500
C376025	60	53.0	10(254)	24/40	4	500
C376030	60	53.0	12(305)	24/40	4	1000
C376040	60	53.0	18(457)	24/40	4	1000
C378020	80	73.0	8(203)	24/40	4	1000
C378040	80	73.0	18(457)	24/40	4	1000
<b>Accessories:</b>						
CS002440			Plastic Clamp for 24/40 Joint			
S181125			Replacement 2mm Teflon Plug Only			
S181530			Replacement 4mm Teflon Plug Only			

**\*Since the chromatography column is used with positive air pressure, It's highly recommended that operator uses the column behind a safety shield.**



### COLUMN, CHROMATOGRAPHY WITH RESERVOIR, FRITTED DISC

With a coarse porosity sealed in fritted disc to support column packing.

All Kemtech columns are heavy wall designed to increase safety.



Item #	Column O.D. (mm)	Column I.D. (mm)	Effective Length Inch (mm)	Joint	PTFE Stopcock Bore (mm)	Capacity of Reservoir (mL)
C391720C	17	13.4	8(203)	24/40	2	100
C391730C	17	13.4	12(305)	24/40	2	100
C391740C	17	13.4	18(457)	24/40	2	250
C392620C	26	20.0	8(203)	24/40	2	250
C392625C	26	20.0	10(254)	24/40	2	250
C392630C	26	20.0	12(305)	24/40	2	250
C392640C	26	20.0	18(457)	24/40	2	500
C393220C	32	26.0	8(203)	24/40	2	500
C393225C	32	26.0	10(254)	24/40	2	500
C393230C	32	26.0	12(305)	24/40	2	500
C393240C	32	26.0	18(457)	24/40	2	500
C394620C	46	40.0	8(203)	24/40	2	500
C394625C	46	40.0	10(254)	24/40	2	500
C394630C	46	40.0	12(305)	24/40	2	500
C394640C	46	40.0	18(457)	24/40	2	500
C396020C	60	53.0	8(203)	24/40	2	500
C396025C	60	53.0	10(254)	24/40	4	500
C396030C	60	53.0	12(305)	24/40	4	1000
C396040C	60	53.0	18(457)	24/40	4	1000
C396060C	60	53.0	24(610)	24/40	4	1000
C398020C	80	73.0	8(203)	24/40	4	1000
C398025C	80	73.0	10(254)	24/40	4	1000
C398030C	80	73.0	12(305)	24/40	4	1000
C398060C	80	73.0	24(610)	24/40	4	1000
<b>Accessories:</b>						
CS002440	Plastic Clamp for 24/40 Joint					
S181125	Replacement 2mm Teflon Plug Only					
S181530	Replacement 4mm Teflon Plug Only					

\*Since the chromatography column is used with positive air pressure, it's highly that the Operator uses the column behind a safety shield.

### CHROMATOGRAPHY COLUMN, SPHERICAL JOINTS

Spherical joint used with pinch clamp makes quick and tight connection under pressure for flash chromatography. All Kemtech columns are heavy wall designed to increase safety.

Item #	Column O.D. (mm)	Column I.D. (mm)	Effective Length Inch (mm)	Joint	PTFE Stopcock Bore (mm)
C195173	17	13.4	12(305)	35/20	2
C195264	26	20.0	18(457)	35/20	2
C195323	32	26.0	12(305)	35/20	2
C195324	32	26.0	18(457)	35/20	2
C195464	46	40.0	18(457)	35/20	2
<b>Accessories:</b>					
CC3525	Clamps for 35/20 Ball Joint				
S181125	Replacement 2mm Teflon Plug Only				



### CHROMATOGRAPHY COLUMN, FRITTED DISC, SPHERICAL JOINTS

With a coarse porosity fritted disc to support packing material.

All Kemtech columns are heavy wall designed to increase safety.

Item #	Column O.D. (mm)	Column I.D. (mm)	Effective Length Inch (mm)	Joint	PTFE Stopcock Bore (mm)
C195171C	17	13.4	8(203)	35/20	2
C195172C	17	13.4	10(254)	35/20	2
C195173C	17	13.4	12(305)	35/20	2
C195262C	26	20.0	10(254)	35/20	2
C195264C	26	20.0	18(457)	35/20	2
C195323C	32	26.0	12(305)	35/20	2
C195324C	32	26.0	18(457)	35/20	2
C195463C	46	40.0	12(305)	35/20	2
C195464C	46	40.0	18(457)	35/20	2
<b>Accessories:</b>					
CC3525	Clamps for 35/20 Ball Joint				
S181125	Replacement 2mm Teflon Plug Only				



**\*Since the chromatography column is used with positive air pressure, it's highly recommended that the operator uses column behind a safety shield.**

**COLUMN, CHROMATOGRAPHY WITH RESERVOIR**

With 35/20 spherical joint. All Kemtech columns are heavy wall designed to increase safety.



Item #	Column O.D. (mm)	Column I.D. (mm)	Effective Length Inch (mm)	Joint	PTFE Stopcock Bore (mm)	Capacity of Reservoir (mL)
C381720	17	13.4	8(203)	35/20	2	100
C381730	17	13.4	12(305)	35/20	2	100
C381740	26	20.0	8(203)	35/20	2	250
C382620	26	20.0	8(203)	35/20	2	250
C382625	26	20.0	10(254)	35/20	2	250
C382630	26	20.0	12(305)	35/20	2	250
C382640	26	20.0	18(457)	35/20	2	500
C383220	32	26.0	8(203)	35/20	2	500
C383225	32	26.0	10(254)	35/20	2	500
C383230	32	26.0	12(305)	35/20	2	500
C383240	32	26.0	18(457)	35/20	2	500
C384630	46	40.0	12(305)	35/20	2	500
C384640	46	40.0	18(457)	35/20	2	500

**Accessories:**

CC3525 Clamps for 35/20 Ball Joint

S181125 Replacement 2mm Teflon Plug Only

\*Since the chromatography column is used with positive air pressure, it's highly recommended that the operator uses the column behind a safety shield.

**COLUMN, CHROMATOGRAPHY, WITH RESERVOIR, FRITTED DISC**

With a coarse porosity fritted disc to support packing with 35/20 spherical joint. All Kemtech Columns are heavy wall designed to increase safety.



Item #	Column O.D. (mm)	Column I.D. (mm)	Effective Length Inch (mm)	Joint	PTFE Stopcock Bore (mm)	Capacity of Reservoir (mL)
C381720C	17	13.4	8(203)	35/20	2	100
C381730C	17	13.4	12(305)	35/20	2	100
C381740C	26	20.0	8(203)	35/20	2	250
C382620C	26	20.0	8(203)	35/20	2	250
C382625C	26	20.0	10(254)	35/20	2	250
C382630C	26	20.0	12(305)	35/20	2	250
C382640C	26	20.0	18(457)	35/20	2	500
C383220C	32	26.0	8(203)	35/20	2	500
C383225C	32	26.0	10(254)	35/20	2	500
C383230C	32	26.0	12(305)	35/20	2	500
C383240C	32	26.0	18(457)	35/20	2	500
C384630C	46	40.0	12(305)	35/20	2	500
C384640C	46	40.0	18(457)	35/20	2	500

**Accessories:**

CC3525 Clamps for 35/20 Ball Joint

S181125 Replacement 2mm Teflon Plug Only

\*Since the chromatography column is used with positive air pressure, it's highly recommended that the operator uses the column behind a safety shield.



### CHROMATOGRAPHY COLUMN, MODIFIED

Short column with lower 24/40 joint and hose connection for vacuum.  
All Kemtech columns are heavy wall designed to increase safety.

Item #	Column O.D. (mm)	Length (mm)	Porosity
F234020C	40	200	Coarse
F234030C	40	300	Coarse
F234030M	40	300	Medium
F236040C	60	400	Coarse
F238530C	90	300	Coarse
F238540C	90	400	Coarse

\*Length above fritted disc.



### COLUMN, CHROMATOGRAPHY, TEFLON® STOPCOCK

With reinforced beaded top. All Kemtech columns are heavy wall designed to increase safety.

Item #	Column O.D. (mm)	Column I.D. (mm)	Effective Length Inch (mm)	PTFE Stopcock Bore (mm)
C361320	13	10.0	8(203)	2
C361330	13	10.0	12(305)	2
C361340	13	10.0	16(406)	2
C361720	17	13.4	8(203)	2
C361725	17	13.4	10(254)	2
C361730	17	13.4	12(305)	2
C362620	26	20.0	8(203)	2
C362625	26	20.0	10(254)	2
C362630	26	20.0	12(305)	2
C362640	26	20.0	18(457)	2
C363225	32	26.0	10(254)	2
C364640	46	40.0	18(457)	2
C366030	60	53.0	12(305)	4
C366040	60	53.0	18(457)	4
C366060	60	53.0	24(610)	4
C368030	80	73.0	12(305)	4

#### Accessories:

S181125	Replacement 2mm Teflon Plug Only
S181530	Replacement 4mm Teflon Plug Only

\*Since the chromatography column is used with positive air pressure, it's highly recommended that the operator uses the column behind a safety shield.



**COLUMN, CHROMATOGRAPHY, TEFLON<sup>®</sup>, STOPCOCK, FRITTED DISC**

With reinforced beaded top and a coarse porosity fritted disc to support column packing. All Kemtech columns are heavy wall designed to increase safety.



Item #	Column O.D. (mm)	Column I.D. (mm)	Effective Length Inch (mm)	PTFE Stopcock Bore (mm)	Price (each)
C361720C	17	13.4	8(203)	2	85.76
C361725C	17	13.4	10(254)	2	90.90
C361730C	17	13.4	12(305)	2	95.58
C361740C	17	13.4	18(457)	2	112.68
C362620C	26	20.0	8(203)	2	85.82
C362625C	26	20.0	10(254)	2	90.90
C362630C	26	20.0	12(305)	2	95.58
C362640C	26	20.0	18(457)	2	112.68
C363225C	32	26.0	10(254)	2	117.76
C363230C	32	26.0	12(305)	2	127.00
C363240C	32	26.0	18(457)	2	153.91
C364620C	46	40.0	8(203)	2	108.86
C364625C	46	40.0	10(254)	2	117.76
C364630C	46	40.0	12(305)	2	126.77
C364640C	46	40.0	18(457)	2	153.73
C366040C	60	53.0	18(457)	4	181.51
C366060C	60	53.0	24(610)	4	224.02
C368030C	80	73.0	12(305)	4	214.83
<b>Accessories:</b>					
S181125	Replacement 2mm Teflon Plug Only				12.54
S181530	Replacement 4mm Teflon Plug Only				20.97

\*Since the chromatography column is used with positive air pressure, it's highly recommended that the operator uses the column behind a safety shield.

### FLOW CONTROL ADAPTER, CHROMATOGRAPHY, RODAVISS

Flow control adapter for use with column with 24/40 inner Rodaviss® joint. Supplied complete with open top screw cap, loosening cap and O-ring. Adapter has a 0-4mm metering plug.

Item #	Joint
C432440	24/40
<b>Accessories:</b>	
RC2440	24/40 Open Top Screw Cap
R202440	24/40 Loosening Ring
R221	#221 O-Rings for 24/40 Rodaviss® Joint
S660004T	04mm High Vacuum Metering Plug and Control Knob. (PTFE O-ring at Tip)
R010	Replacement Viton® O-rings, Size 010

**\*Since the chromatography column is used with positive air pressure, It's highly recommended that the operator uses the column behind a safety shield.**



### RESERVOIR, CHROMATOGRAPHY RODAVISS® JOINT

Reservoir has a top 24/40 or 45/50 Rodaviss outer joint for use with flow controller, and the listed size lower inner joint. Supplied complete with open top cap, Viton O-ring and loosening ring.

Item #	Capacity (mL)	Lower Inner Joint Size
C414250	250	24/40
C414500	500	24/40
<b>Accessories:</b>		
RC2440	24/40 Open Top Screw Cap	
R202440	24/40 Loosening Ring	
R221	#221 O-Rings for 24/40 Rodaviss Joint	

**\*Since the chromatography column is used with positive air pressure, It's highly recommended that the operator uses the column behind a safety shield.**





### **DISTILLING BULB, KUGELROHR**

Used in distillation of very small amounts of distillate at lower temperature with high efficiency. Kugelrohr machine required but not supplied. For the vacuum adapter, see A301420

Item #	Capacity (mL)	Joint	Bulb O.D. (mm)	Overall Height (mm)
D281005	5	14/20	25	80
D281010	10	14/20	31	85
D281015	15	14/20	35	90
D281025	25	14/20	42	98
D281050	50	14/20	48	105
<b>Accessories:</b>				
A301420	14/20 Vacuum Adapter with an 8mm Hose connection			



### **DISTILLATION APPARATUS, MICROSCALE**

Short-path design for microscale application. Used with a 25mm immersion thermometer and a D27 distillation receiver.

Item #	Thermometer Joint	Joint
D151814	10/18	14/20
D151819	10/18	19/22



### **DISTILLATION RECEIVER, WITHOUT HOSE CONNECTION**

With the outer and inner joint at a 135° angle, used with short-path.

Item #	Joint
D271420	14/20
D272440	24/40

### **DISTILLATION APPARATUS, MICROSCALE, VIGREUX**

With Vigreux indentations. Used with a 25mm immersion thermometer and a D27 distillation receiver.

Item #	Thermometer Joint	Joint
D251014	10/18	14/20
D251019	10/18	19/22



### **DISTILLATION APPARATUS, SHORT PATH, VACUUM JACKETED**

Vacuum jacketed design for more efficiency. When a thermometer is inserted into the top of this apparatus, the bulb and stem serve as column packing. The close coupled condenser and vacuum connection offer an extremely short condensate travel path. Used with a 25mm immersion thermometer and a D27 distillation receiver.

Item #	Thermometer Joint	Joints
D121014	10/18	14/20



### **DISTILLING RECEIVER**

Supplied with a distribution adapter, three 12mL receiver tubes, and three plastic joint clips. With a 135° angle between the top outer joint and the lower inner joint.

Item #	Lower Inner Joint Size
D381412	14/20
<b>Accessories:</b>	
T230012	Receiver Tube, 14/20, 12mL
CS001420	Plastic Clamp for 14/20 Joint



### **DISTILLATION APPARATUS, SHORT PATH, VACUUM JACKETED**

Used with a 25mm immersion thermometer and a D27 distillation receiver.

Item #	Thermometer Joint	Joints
D371418	10/18	14/20




**DISTILLATION, SHORT PATH WITH 24/40 JOINT**

One-piece design for easy set-up. For the best result, use D272440 distillation receiver. To be used with a 25mm immersion thermometer.

Item #	Thermometer Joint	Joint
D261024	10/18	14/20


**DISTILLING HEAD, SHORT PATH, FOR VOLATILE SOLVENTS**

With the condenser being a combination of a cold coil and Leibig top. Outer joint is 10/18. For use with a 50mm immersion thermometer. For best result use D272440.

Item #	Lower Inner Joint Size	Top Thermometer Joint
D531024	24/40	10/18


**DISTILLING HEAD, SHORT PATH, FOR VOLATILE DISTILLANTS**

Same as above but with Vigreux indentations. Top outer joint is 10/18. For use with a 50mm immersion thermometer.

Item #	Lower Inner Joint Size	Top Thermometer Joint
D541024	24/40	10/18

### DISTILLING HEAD

Thermometer joint is 10/18 for a 76mm immersion thermometer. Side arm is at a 75° angle.

Item #	Lower Inner Joint Size	Top Thermometer Joint	Jacket Length (mm)
D304150	24/40	10/18	150
D304250	24/40	10/18	250
D304400	24/40	10/18	400



### DISTILLATION RECEIVER, WITH HOSE CONNECTION

Cow-type design having three receivers spaced 40° apart. 105° angle between top outer joint and lower inner joints.

Item #	Joint
D681420	14/20
D681922	19/22
D682440	24/40



### DISTILLATION APPARATUS, VACUUM

10/18 joint on side tube accommodates a 25mm immersion thermometer.

Item #	Joint	Other Joints
D101410	10/18	14/20
D101414	14/20	14/20
D101910	10/18	19/22






**DISTILLATION COW RECEIVER**

Designed for microscale application. With one female joint and four drip-tip male joints.

Item #	Joint
D161420	14/20


**DISTILLING RECEIVER, GRADUATED, WITH HOOKS**

Centrifuge tube shaped receiver with an upper standard taper joint.

Item #	Joint	Capacity (mL)
T230012	14/20	12
T230015	14/20	15

\*Used for indication purposes only – not accuracy.

Length of T230012 is approximately 120mm.

Length of T230015 is approximately 155mm.


**DISTILLING, COW RECEIVER, GRADUATED**

Tubes are graduated from 0-3mL in 0.2mL subdivisions.

	Joint
D351403	14/20

\*For distillation head, please see D251014.


**DISTILLATION RECEIVER, WITH HOSE CONNECTION**

Cow-type design having three receivers spaced 40° apart. 105° angle between top outer joint and lower inner joints.

Item #	Joint
D191420	14/20
D191922	19/22
D192440	24/40

### DISTILLATION RECEIVING COMPONENTS

Designed without hose connection to be used with a D10 distillation apparatus.

Item #	Item Type	Joint
A581420	Distribution Adapter	14/20
D201414	Cow Receiver	14/20
A581922	Distribution Adapter	19/22
D201922	Cow Receiver	19/22
<b>Accessories:</b>		
CS001420	Plastic Clamp for 14/20 Joint	
CS001922	Plastic Clamp for 19/22 Joint	



### DISTILLATION RECEIVING COMPONENTS

Rotating cow receiver allows for four flasks to be progressively filled.

Item #	Item Type	Joint
A551420	Distribution Adapter	14/20
D201414	Cow Receiver	14/20
A551922	Distribution Adapter	19/22
D201922	Cow Receiver	19/22
A552440	Distribution Adapter	24/40
D202424	Cow Receiver	24/40
<b>Accessories:</b>		
CS001420	Plastic Clamp for 14/20 Joint	
CS001922	Plastic Clamp for 19/22 Joint	
CS002440	Plastic Clamp for 24/40 Joint	



### DISTRIBUTION RECEIVER, VERTICAL ORIENTATION

Rotating distillation receiver allows for four fractions to be collected. Vacuum adapter has a vertical orientation.

Item #	Item Type	Joint
A592440	Distribution Adapter	24/40
D202424	Cow Receiver	24/40
<b>Accessories:</b>		
CS002440	Plastic Clamp for 24/40 Joint	




**DISTILLATION HEAD, VIGREUX, MICRO**

Distillation head with condenser sealed to a Vigreux column. Vacuum adapter has an outer joint and accepts a distribution adapter (D201414). To be used with a 25mm immersion thermometer.

Item #	Joint Size	Thermometer Joint	Approx. Height x Width (mm)
D141014	14/20	10/18	195*185


**DISTILLATION HEAD, JACKETED, VIGREUX, MICRO**

Similar to D14- series but with the Vigreux column vacuum jacketed to improve distillation performance. To be used with D201414 distribution adapter.

Item #	Joint Size	Thermometer Joint	Approx. Height x Width (mm)
D171014	14/20	10/18	195*190


**DISTILLATION HEAD, VIGREUX, JACKETED**

Vacuum jacketed Vigreux distillation head having a sealed on condenser braced for strength. Vacuum adapter has an inner joint and a sealed in drip tip. To be used with a 25mm immersion thermometer.

Item #	Joint Size	Column Height (mm)	Thermometer Joint	Approx. HeightxWidth (mm)
D211100	14/20	100	10/18	200*180
D211150	14/20	150	10/18	250*180
D214200	24/40	200	10/18	325*350
D214300	24/40	300	10/18	425*350


**DISTILLATION APPARATUS, LARGE SCALE**

One-piece design. With a 10/18 thermometer joint and a high efficiency cooling jacket. To be used with a 50mm immersion thermometer with a 10/18 joint.

Item #	Joint
D502440	24/40

### DRYING CHAMBER, ABDERHALDEN

Drying samples for elemental analysis placed in a vial which is placed into a drying chamber. Under vacuum and gentle heat created by refluxing in outer jacket of low boiling point solvents.

Item #	Upper Joint	Lower Joint	Drying Chamber Joint
D222434	24/40	24/40	34/45



### DESICCANT FLASK

With Teflon stopcock. Use with D222434 drying chamber.

Item #	Joint	Stopcock
D133424	34/45	2mm (PTFE)
<b>Accessory:</b>		
S181125	Replacement 2mm Teflon® Plug Only	



### DISTILLATION HEAD, MICROSCALE

With 2mm glass stopcock and 24/40 joint. Supplied with a special 25mL long-neck flask for small volume efficiency.

Item #	Joint	Hose O.D. (mm)
D112440G	24/40	10
<b>Accessory:</b>		
DF302425	Flask, Round Bottom, Long Neck, 25mL	
S461230	Replacement 2mm Glass Plug Only	
S691230	Replacement S.S. Retention Kit for 2mm Glass Stopcock	





### DISTILLATION RECEIVER, DEAN STARK

For easy separation of water from reaction or distillation system. Graduated with 2mm Teflon stopcock or 2mm glass stopcock.

Item #	Capacity (mL)	Joint	Stopcock (mm)	Approx. Height×Width (mm)
D451414	5	14/20	2, PTFE	190*120
D451410	10	14/20	2, PTFE	250*120
D451910	10	19/22	2, PTFE	250*120
D452410	10	24/40	2, PTFE	275*120
D452424	20	24/40	2, PTFE	300*105
D452910	10	29/42	2, PTFE	275*72
D452920	20	29/42	2, PTFE	290*72
<b>Accessories:</b>				
S181125	Replacement 2mm Teflon® Plug Only			



### DISTILLATION RECEIVER, DEAN STARK

Similar to D451414 above but with the uptake tube vacuum jacketed to improve distillation performance. The jacket eliminates the possibility of condensation or recrystallization of distillate in the sidearm. With 2mm PTFE stopcock.

Item #	Capacity (mL)	Joint	Stopcock (mm)	Approx. Height×Width (mm)
D441405	5	14/20	2, PTFE	240×75
D441410	10	14/20	2, PTFE	280×75
D442410	10	24/40	2, PTFE	300×70
D442420	20	24/40	2, PTFE	300×80
<b>Accessories:</b>				
S181125	Replacement 2mm Teflon® Plug Only			

### CONDENSER, FOR SOXHLET EXTRACTORS

Allihn reflux condenser with a water-cooled inner drip joint at bottom.

Item #	Jacket Length (mm)	Joint	Overall Height (mm)
C243445	190	34/45	275
C244500	260	45/50	365
C245550	300	55/50	405

\*We recommend using keck clips for this assembly.



### EXTRACTOR, SOXHLET

Extractor body only.

Item #	Upper Joint	Lower Joint	Volume (Approx.)
E103424	34/45	24/40	60mL
E104524	45/50	24/40	100mL
E105550	55/50	24/40	220mL

\*Suggested flask sizes: 250ml, 500ml, or 1L.



### EXTRACTION THIMBLE, GLASS

All glass extraction thimbles permit viewing extraction process and subsequent weighing. C-Coarse, XC-Extra Coarse. Small thimble is used with C243445 and E103424; Medium thimble is used with C244500 and E104524; Large thimble is used with C245550 and E105550.

Item #	Fits Size	O.D.x Height (mm)	Porosity
E112585C	Small	25×85	C
E112585X	Small	25×85	XC
E113590C	Medium	35×90	C
E113590X	Medium	35×90	XC
E114513C	Large	45×130	C
E114513X	Large	45×130	XC





### SNYDER DISTILLATION COLUMN

For use with Kuderna-Danish flask.

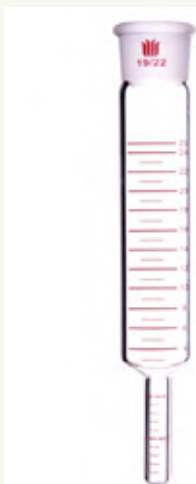
Item #	Joint	Column Height (mm)	Overall Height (mm)
C302440	24/40	150	300



### KUDERNA-DANISH FLASK

Top joint is a 24/40 outer while the lower joint is a 19/22 inner.

Item #	Flask Capacity (mL)
F984250	250
F984500	500
<b>Accessories:</b>	
CS001922	Plastic Clamp for 19/22 Joint
CS002440	Plastic Clamp for 24/40 Joint



### CONCENTRATOR TUBE, GRADUATED

Graduated concentrator tubes for use with Kuderna-Danish evaporative set-ups. Tube can be stoppered for storage. Overall height is 125mm for 10mL, and 153mm for the 25mL.

Item #	Capacity (mL)	Joint Size	Subdivisions (mL)
C291910	10	19/22	0 to 1mL in 0.1 2 to 10 mL in 1.0
C291925	25	19/22	0 to 1mL in 0.1 2 to 25mL in 1.0



### FILTRATION APPARATUS, 47MM FRITTED, 40/35

Using 47mm membranes for filtering corrosive solutions, particulate removal from HPLC solvents, and filtration analysis with solid phase extraction disks. Support base has a sealed-in coarse porosity fritted disc. Complete assembly includes a 300mL graduated funnel, aluminum clamp, support base and 1 liter filtering flask.

Item #	Description
F10401L	Complete Support Assembly
<b>Replacement Components:</b>	
F100001	Funnel, 47mm, 300mL Graduated
F100002	Clamp, 47mm Aluminum
F100003	Base, 47mm Fritted Support, 40/35
F100004	Flask, 1L Filtering, 40/35

Inner Male Joint 40/35; Hose Connection = 3/8" I.D.

#2 hose connection – 10mm OD



### FILTRATION APPARATUS, 47MM STAINLESS STEEL, 40/35

Using 47mm membranes for filtering corrosive solutions, particulate removal from HPLC solvents, and filtration analysis with solid phase extraction disks. Support base has removable 47mm stainless steel support screen for use with viscous or proteinaceous solutions. Complete assembly includes a 300mL graduated funnel, aluminum clamp, support base and 1 liter filtering flask.

Item #	Description
F10401LA	Complete Support Assembly
<b>Replacement Components:</b>	
F100001	Funnel, 47mm, 300mL Graduated
F100002	Clamp, 47mm Aluminum
F100003A	Base, 47mm SS Screen Support
F100004	Flask, 1L Filtering, 40/35
F100007	Stainless Steel Screen for Base Support

Inner Male Joint 40/35; Hose Connection = 3/8" I.D.

#2 hose connection – 10mm OD



**FLASK, ROUND BOTTOM, SINGLE NECK**

Heavy wall design. All sizes listed below are hand-blown from tubing to ensure uniform wall thickness.



Item #	Capacity (mL)	Joint
F301405	5	14/20
F301410	10	14/20
F301910	10	19/22
F301425	25	14/20
F301925	25	19/22
F302425	25	24/40
F301450	50	14/20
F301950	50	19/22
F302450	50	24/40
F301100	100	14/20
F309100	100	19/22
F304100	100	24/40
F308100	100	29/42
F301200	200	14/20
F309200	200	19/22
F309250	250	19/22
F304200	200	24/40
F304250	250	24/40
F308250	250	29/42
F301300	300	14/20
F309300	300	19/22
F304300	300	24/40
F309500	500	19/22
F304500	500	24/40
F308500	500	29/42
F303450	500	34/45
F304000	1000	24/40
F30291L	1000	29/42
F30242L	2000	24/40
F30292L	2000	29/42
F30452L	2000	45/50
F30243L	3000	24/40
F30293L	3000	29/42
F30343L	3000	34/45
F30453L	3000	45/50
F30553L	3000	55/50
F30245L	5000	24/40
F30295L	5000	29/42
F30345L	5000	34/45
F30455L	5000	45/50
F30555L	5000	55/50

### FLASK, FLAT BOTTOM

Heavy wall single neck flat bottom flask with an outer joint. All sizes listed below are hand-blown from tubing to ensure uniform wall thickness.

Item #	Capacity (mL)	Joint
F122450	50	24/40
F124100	100	24/40
F124125	125	24/40
F124250	250	24/40
F124300	300	24/40
F124500	500	24/40
F124000	1000	24/40
F128000	1000	29/42



### FLASK, ROUND BOTTOM, SPHERICAL JOINT

Heavy wall design. All sizes listed below are hand-blown from tubing to ensure uniform wall thickness.

Item #	Capacity (mL)	Joint
F527500	500	35/20
F527000	1000	35/20
F52702L	2000	35/20



### FLASK, ROUND BOTTOM WITH HOOKS

Heavy wall design.

Item #	Capacity (mL)	Joint
F331405	5	14/20
F331410	10	14/20
F331425	25	14/20
F331450	50	14/20
F339100	100	14/20
<b>Accessories:</b>		
TH018	Stainless Steel Springs, 18mm	



**FLASK, ROUND BOTTOM, THREADED INLET**

With a threaded side port for insertion of thermometer or bleed tubes. Having an O.D. between 5mm and 7.5mm. Heavy wall design. All sizes listed below are hand-blown from tubing to ensure uniform wall thickness.



Item #	Capacity (mL)	Joint
F141425	25	14/20
F141450	50	14/20
F149100	100	19/22
F144100	100	24/40
F141250	250	14/20
F149250	250	19/22
F144250	250	24/40
F144500	500	24/40

**Accessories:**

RC009	Nylon <sup>®</sup> cap
R107	Replacement Viton <sup>®</sup> Orings, Size 107

**FLASK, EVAPORATION**

Heavy wall design. Low profile design sits upright on a bench and also provides for easy product access with a spatula. The unique flask shape is excellent for the controlled evaporation of foaming solvents such as Toluene or xylene on a rotary evaporator.



Item #	Capacity (mL)	Joint
F791450	50	14/20
F791100	100	14/20
F794100	100	24/40
F794200	200	24/40
F791250	250	14/20
F794250	250	24/40
F798250	250	29/42
F794500	500	24/40
F794000	1000	24/40

**FLASK, PEAR SHAPED, SINGLE NECK**

Heavy wall design.



Item #	Capacity (mL)	Joint
F321405L	5	14/20
F321410L	10	14/20
F321415L	15	14/20
F321225L	25	14/20
F329225L	25	19/22
F321250L	50	14/20
F329250L	50	19/22
F322450	50	24/40
F321100L	100	14/20
F329100L	100	19/22
F324100	100	24/40
F321200L	200	14/20
F324200	200	24/40

### FLASK, TWO NECK, PEAR SHAPED

Pear shape with joints. Heavy wall design.

Item #	Capacity (mL)	Center Joint	Side Joint
F341105	5	14/20	14/20
F341110	10	14/20	14/20
F341115	15	14/20	14/20
F341125	25	14/20	14/20
F341150	50	14/20	14/20
F341100	100	14/20	14/20
F341200	200	14/20	14/20



### FLASK, RECOVERY

Heavy wall design. All sizes listed below are hand-blown from tubing to ensure uniform wall thickness.

Item #	Capacity (mL)	Joint
F311405	5	14/20
F311410	10	14/20
F311910	10	19/22
F311425	25	14/20
F311925	25	19/22
F312425	25	24/40
F311450	50	14/20
F311950	50	19/22
F312450	50	24/40
F311100	100	14/20
F319100	100	19/22
F314100	100	24/40
F318100	100	29/42
F311200	200	14/20
F314200	200	24/40
F311250	250	14/20
F319250	250	19/22
F314250	250	24/40
F318250	250	29/42
F314500	500	24/40
F318500	500	29/42
F314000	1000	24/40
F31291L	1000	29/42




**FLASK, TWO NECK, ANGLED**

Round bottom with joints. Heavy wall design. All sizes listed below are hand-blown from tubing to ensure uniform wall thickness.

Item #	Capacity (mL)	Center Joint	Side Joint
F411110	10	14/20	14/20
F411125	25	14/20	14/20
F411925	25	19/22	14/20
F419925	25	19/22	19/22
F411150	50	14/20	14/20
F419950	50	19/22	19/22
F414150	50	24/40	14/20
F414450	50	24/40	24/40
F411100	100	14/20	14/20
F411900	100	19/22	14/20
F419900	100	19/22	19/22
F414100	100	24/40	14/20
F419100	100	24/40	19/22
F414400	100	24/40	24/40
F411250	250	14/20	14/20
F410250	250	19/22	14/20
F419250	250	19/22	19/22
F414251	250	24/40	14/20
F414259	250	24/40	19/22
F414250	250	24/40	24/40
F411501	500	14/20	14/20
F419501	500	19/22	14/20
F414501	500	24/40	14/20
F414504	500	24/40	24/40
F415501	500	29/42	24/40
F415502	500	29/42	29/42
F41611L	1000	24/40	14/20
F41621L	1000	24/40	19/22
F41241L	1000	24/40	24/40
F41641L	1000	29/42	29/42
F41242L	2000	24/40	24/40
F41712L	2000	29/42	24/40
F41722L	2000	29/42	29/42
F41732L	2000	34/45	24/40
F41742L	2000	34/45	29/42
F41752L	2000	45/50	24/40
F41762L	2000	45/50	29/42
F41813L	3000	29/42	24/40
F41823L	3000	29/42	29/42
F41833L	3000	34/45	24/40
F41843L	3000	34/45	29/42
F41853L	3000	45/50	24/40
F41863L	3000	45/50	29/42

Item #	Capacity (mL)	Joint	Side Joint
F41915L	5000	29/42	24/40
F41925L	5000	29/42	29/42
F41935L	5000	34/45	24/40
F41945L	5000	34/45	29/42
F41955L	5000	45/50	24/40
F41965L	5000	45/50	29/42

### FLASK, THREE NECK, ANGLED

Round bottom with joints. Heavy wall design. All sizes listed below are hand-blown from tubing to ensure uniform wall thickness.

Item #	Capacity (mL)	Center Joint	Side Joint
F431110	10	14/20	14/20
F431125	25	14/20	14/20
F439925	25	19/22	19/22
F431150	50	14/20	14/20
F439150	50	19/22	14/20
F439950	50	19/22	19/22
F434150	50	24/40	14/20
F434950	50	24/40	19/22
F434450	50	24/40	24/40
F431100	100	14/20	14/20
F439100	100	19/22	14/20
F439900	100	19/22	19/22
F434100	100	24/40	14/20
F434900	100	24/40	19/22
F434400	100	24/40	24/40
F431250	250	14/20	14/20
F430250	250	19/22	14/20
F439250	250	19/22	19/22
F432250	250	24/40	19/22
F434250	250	24/40	24/40
F431500	500	14/20	14/20
F439500	500	19/22	19/22
F430500	500	24/40	19/22
F434500	500	24/40	24/40
F434524	500	45/50	24/40
F43401L	1000	24/40	24/40
F431045	1000	45/50	24/40
F43242L	2000	24/40	24/40
F43542L	2000	45/50	24/40
F43243L	3000	24/40	24/40
F43843L	3000	29/42	24/40
F43293L	3000	29/42	29/42
F43343L	3000	34/45	24/40
F43383L	3000	34/45	29/42
F43543L	3000	45/50	24/40
F43583L	3000	45/50	29/42
F43245L	5000	24/40	24/40
F43845L	5000	29/42	24/40
F43295L	5000	29/42	29/42
F43345L	5000	34/45	24/40
F43385L	5000	34/45	29/42
F43545L	5000	45/50	24/40
F43585L	5000	45/50	29/42





### FLASK, THREE NECK, VERTICAL

Round bottom with joints. Heavy wall design. All sizes listed below are hand-blown from tubing to ensure uniform wall thickness.



Item #	Capacity (mL)	Center Joint	Side Joint
F441150	50	14/20	14/20
F449950	50	19/22	19/22
F441100	100	14/20	14/20
F449100	100	19/22	14/20
F449900	100	19/22	19/22
F444100	100	24/40	14/20
F444900	100	24/40	19/22
F444400	100	24/40	24/40
F441250	250	14/20	14/20
F442250	250	24/40	19/22
F444250	250	24/40	24/40
F441500	500	14/20	14/20
F449500	500	19/22	19/22
F440500	500	24/40	19/22
F444500	500	24/40	24/40
F446500	500	29/42	24/40
F448500	500	29/42	29/42
F444000	1000	24/40	24/40
F44841L	1000	29/42	24/40
F44341L	1000	34/45	24/40
F44451L	1000	45/50	24/40
F44242L	2000	24/40	24/40
F44842L	2000	29/42	24/40
F44292L	2000	29/42	29/42
F44342L	2000	34/45	24/40
F44542L	2000	45/50	24/40
F44243L	3000	24/40	24/40
F44843L	3000	29/42	24/40
F44293L	3000	29/42	29/42
F44343L	3000	34/45	24/40
F44383L	3000	34/45	29/42
F44543L	3000	45/50	24/40
F44583L	3000	45/50	29/42
F44245L	5000	24/40	24/40
F44845L	5000	29/42	24/40
F44295L	5000	29/42	29/42
F44345L	5000	34/45	24/40
F44385L	5000	34/45	29/42
F44545L	5000	45/50	24/40
F44585L	5000	45/50	29/42

### FLASK, ROUND BOTTOM, 4-NECK, ANGLED

Heavy wall design. All sizes listed below are hand-blown from tubing to ensure uniform wall thickness.

Item #	Capacity (mL)	Center Joint	Side Joint
F221125	25	14/20	14/20
F221150	50	14/20	14/20
F221100	100	14/20	14/20
F221250	250	14/20	14/20
F224250	250	24/40	24/40
F221500	500	14/20	14/20
F224500	500	24/40	24/40
F222500	500	29/42	24/40
F224000	1000	24/40	24/40



### FLASK, ROUND BOTTOM, THREE NECK, FULLJACKET

Round bottom flask with standard taper outer joints on the center and vertical side necks. Heavy wall design. Entire flask body is jacketed and has two hose connections for circulation of heating or cooling liquid.

Item #	Capacity (mL)	Center Joint	Side Joint
F204500	500	24/40	24/40
F208450	500	29/42	24/40
F20241L	1000	24/40	24/40
F20841L	1000	29/42	24/40



### FLASK, ROUND BOTTOM, THREE NECK, HALFJACKETED, WITH STOPCOCK DRAIN

Round bottom flask with standard taper outer joints on the center and vertical side necks. Heavy wall design. Lower half of the flask is jacketed with two hose connections for circulation of heating or cooling liquid. Lower outlet has a 4mm straight bore glass or PTFE stopcock.

Item #	Capacity (mL)	Center Joint	Side Joint	Stopcock Type
F634500G	500	24/40	24/40	Glass
F638450G	500	29/42	24/40	Glass
F63241LG	1000	24/40	24/40	Glass
F63841LG	1000	29/42	24/40	Glass
F634500	500	24/40	24/40	Teflon®
F638450	500	29/42	24/40	Teflon®
F63241L	1000	24/40	24/40	Teflon®
F63841L	1000	29/42	24/40	Teflon®



#### Accessory:

S461740	Replacement 4mm Glass Plug Only
S691740	Replacement S.S. Retention Kit for 4mm Glass Stopcock
S181530	Replacement 4mm Teflon® Plug Only


**FLASK, ROUND BOTTOM, 3-NECK BOTTOM OUTLET**

Lower outlet is a 4mm straight bore Teflon® stopcock.

Item #	Capacity (mL)	Center Joint	Side Joint
F424450	500	24/40	24/40
F42441L	1000	24/40	24/40
F42442L	2000	24/40	24/40
F42542L	2000	24/40	24/40
<b>Accessory:</b>			
S181530	Replacement 4mm Teflon® Plug Only		


**FLASK, ROUND BOTTOM, 4-NECK, WITH THREADED SIDE ARM**

Round bottom, four-neck flask with standard taper outer joints and a thermometer joint. Supplied complete with a compression cap and Viton O-ring for insertion of plain stem thermometers or bleed tubes having an O.D. between 5.0 - 7.0mm.

Item #	Capacity (mL)	Center Joint	Side Joint
F714500	500	24/40	24/40
F71241L	1000	24/40	24/40
F71842L	2000	29/42	24/40
F71542L	2000	45/50	24/40
<b>Accessories:</b>			
RC009	Nylon® caps		
R107	Replacement Viton® O rings, Size 107		

\*All sizes including 2L flasks are hand-blown from tubing to ensure heavy and uniform wall.

**FLASK, ROUND BOTTOM, 4-NECK**

With identical vertical side joints.

Item #	Capacity (mL)	Center Joint	Side Joint
F214250	250	24/40	24/40
F214500	500	24/40	24/40
F212500	500	29/42	24/40
F218500	500	29/42	29/42
F214000	1000	24/40	24/40
F21841L	1000	29/42	24/40
F21842L	2000	29/42	24/40
F21342L	2000	34/45	24/40
F21543L	3000	45/50	24/40
F21583L	3000	45/50	29/42
F21845L	5000	29/42	24/40
F21545L	5000	45/50	24/40
F21585L	5000	45/50	29/42

\*All sizes including 2L flasks are hand-blown from tubing to ensure heavy and uniform wall.

### FLASK, ERLLENMEYER

With joint. Stopper is not supplied.

Item #	Capacity (mL)	Joint
F661405	5	14/20
F661410	10	14/20
F661425	25	14/20
F661925	25	19/22
F661450	50	14/20
F661950	50	19/22
F662450	50	24/40
F662950	50	29/42
F661125	125	14/20
F669125	125	19/22
F664125	125	24/40
F664250	250	24/40
F669250	250	29/42
F664500	500	24/40
F669500	500	29/42
F664000	1000	24/40
F668000	1000	29/42

\*All sizes including 1L flasks are hand-blown from tubing to ensure heavy and uniform wall.



### FLASK, FILTERING, WITH JOINT

Heavy wall design made from tubing to ensure excellent quality with 10 mm hose connection.

Item #	Capacity (mL)	Joint
F724250	250	24/40
F724500	500	24/40
F724000	1000	24/40



### TUBE, STORAGE, HIGH VACUUM VALVE

Supplied with high vacuum valve with PTFE O-ring at tip and a PTFE wiper (umbrella) to protect the Viton® O-ring on shaft.



Item #	Capacity (mL)	Valve Size	Tube O.D.xLength (mm)
F580010	10	0-4mm	22×55
F580810	10	0-8mm	19×65
F580020	20	0-4mm	22×110
F580820	20	0-8mm	19×130
F580025	25	0-4mm	26×110
F580825	25	0-8mm	26×110
F580050	50	0-4mm	28×120
F580850	50	0-8mm	28×120
F580100	100	0-4mm	40×165
F588100	100	0-8mm	40×165
F588250	250	0-8mm	60×185
<b>Accessories:</b>			
S600004T	0-4mm PTFE Protected High Vacuum Valve (Fully Enclosed)		
S600008T	0-8mm PTFE Protected High Vacuum Valve (Fully Enclosed)		

### TUBE, STORAGE, INTERNAL THREAD HIGH VACUUM VALVE

Supplied with internal thread high vacuum valve with PTFE O-ring at tip and a PTFE wiper (umbrella) to protect the Viton® O-ring on shaft.



Item #	Capacity (mL)	Valve Size	Tube O.D.x Length (mm)
F580010N	10	0-4mm	22×55
F580810N	10	0-8mm	19×65
F580020N	20	0-4mm	22×110
F580820N	20	0-8mm	19×130
F580025N	25	0-4mm	26×110
F580825N	25	0-8mm	26×110
F580050N	50	0-4mm	28×120
F580850N	50	0-8mm	28×120
F580100N	100	0-4mm	40×165
F588100N	100	0-8mm	40×165
F588250N	250	0-8mm	60×185
<b>Accessories:</b>			
S600004N	0-4mm High Vacuum Valve with Internal Thread		
S600008N	0-8mm High Vacuum Valve with Internal Thread		

## FLASK, MODIFIED SCHLENK TUBE

Choice of either 2mm glass stopcock, 2mm Teflon® stopcock or 0-4mm high vacuum valve.

Item #	Capacity (mL)	Joint	Stopcock Type
F901410	10	14/20	Teflon®
F901425	25	14/20	Teflon®
F901450	50	14/20	Teflon®
F901950	50	19/22	Teflon®
F902450	50	24/40	Teflon®
F901100	100	14/20	Teflon®
F909100	100	19/22	Teflon®
F904100	100	24/40	Teflon®
F901200	200	14/20	Teflon®
F909200	200	19/22	Teflon®
F904200	200	24/40	Teflon®
F904500	500	24/40	Teflon®
F904000	1000	24/40	Teflon®
F901410G	10	14/20	Glass
F901425G	25	14/20	Glass
F901450G	50	14/20	Glass
F901950G	50	19/22	Glass
F902450G	50	24/40	Glass
F901100G	100	14/20	Glass
F909100G	100	19/22	Glass
F904100G	100	24/40	Glass
F901200G	200	14/20	Glass
F904200G	200	24/40	Glass
F904500G	500	24/40	Glass
F904000G	1000	24/40	Glass
F901425H	25	14/20	HV Valve
F901450H	50	14/20	HV Valve
F901950H	50	19/22	HV Valve
F902450H	50	24/40	HV Valve
F901100H	100	14/20	HV Valve
F909100H	100	19/22	HV Valve
F904100H	100	24/40	HV Valve
F901200H	200	14/20	HV Valve
F909200H	200	19/22	HV Valve
F904200H	200	24/40	HV Valve
F904500H	500	24/40	HV Valve
F904000H	1000	24/40	HV Valve
<b>Accessories:</b>			
S181125	Replacement 2mm Teflon® Plug Only		
S461230	Replacement 2mm Glass Plug Only		
S691230	Replacement S.S. Retention Kit for 2mm Glass Stopcock		
S600004T	04mm PTFE Protected High Vacuum Valve (Fully Enclosed)		
R010	Viton® Oring for 04mm High Vacuum Plug Shaft		




**TUBE, STORAGE WITH OUTER JOINT**

Supplied with high vacuum valve with PTFE O-ring at tip.

Item #	Capacity (mL)	Joint	Valve Size	Tube O.D.× Length (mm)
F761425	25	14/20	0-4mm	26*110
F761450	50	14/20	0-4mm	28*120
F762450	50	24/40	0-4mm	28*120
F761100	100	14/20	0-4mm	40*165
F764100	100	24/40	0-4mm	40*165
F761108	100	14/20	0-8mm	40*165
F764108	100	24/40	0-8mm	40*165
F764258	250	24/40	0-8mm	60*185
F764358	350	24/40	0-8mm	70*200
<b>Accessories:</b>				
S600004T	0-4mm PTFE Protected High Vacuum Valve (Fully Enclosed)			
S600008T	0-8mm PTFE Protected High Vacuum Valve (Fully Enclosed)			
R010	Viton® O-ring for 0-4mm High Vacuum Plug Shaft			
R110	Viton® O-ring for 0-8mm High Vacuum Plug Shaft			

**FLASK, STORAGE WITH OUTER JOINT**

Supplied with high vacuum valve with PTFE O-ring at tip.



Item #	Capacity (mL)	Joint	Valve Size
F461010	10	14/20	0-4mm
F461025	25	14/20	0-4mm
F461050	50	14/20	0-4mm
F461100	100	14/20	0-4mm
F464100	100	24/40	0-4mm
F461250	250	14/20	0-4mm
F464250	250	24/40	0-4mm
F461500	500	14/20	0-4mm
F464500	500	24/40	0-4mm
F464508	500	24/40	0-8mm
F464000	1000	24/40	0-4mm
F464008	1000	24/40	0-8mm
<b>Accessories:</b>			
S600004T	0-4mm PTFE Protected High Vacuum Valve (Fully Enclosed)		
S600008T	0-8mm PTFE Protected High Vacuum Valve (Fully Enclosed)		
R010	Viton® O-ring for 0-4mm High Vacuum Plug Shaft		
R110	Viton® O-ring for 0-8mm High Vacuum Plug Shaft		



### FLASK, SOLVENT TRANSFER/STORAGE

Item #	Capacity (mL)	Joint	Valve Size
F484250	250	24/40	0-4mm
F484258	250	24/40	0-8mm
F481500	500	14/20	0-4mm
F484500	500	24/40	0-4mm
F484508	500	24/40	0-8mm
F484000	1000	24/40	0-4mm
F484008	1000	24/40	0-8mm

#### Accessories:

S600004T	0-4mm PTFE Protected High Vacuum Valve (Fully Enclosed)		
S600008T	0-8mm PTFE Protected High Vacuum Valve (Fully Enclosed)		
R010	Viton® O-ring for 0-4mm High Vacuum Plug Shaft		
R110	Viton® O-ring for 0-8mm High Vacuum Plug Shaft		



### FLASK, HIGH VACUUM VALVE

Supplied with a high vacuum valve with O-ring at tip and PTFE wiper (umbrella) to protect Viton® O-ring on shaft.

Item #	Capacity (mL)	Valve Size
F490010	10	0-4mm
F490050	50	0-4mm
F490100	100	0-4mm
F490250	250	0-4mm
F490258	250	0-8mm
F490500	500	0-4mm
F49081L	1000	0-8mm

#### Accessories:

S600004T	0-4mm PTFE Protected High Vacuum Valve (Fully Enclosed)	
S600008T	0-8mm PTFE Protected High Vacuum Valve (Fully Enclosed)	
R010	Viton® O-ring for 0-4mm High Vacuum Plug Shaft	
R110	Viton® O-ring for 0-8mm High Vacuum Plug Shaft	



### FLASK, REACTION, HIGH VACUUM VALVE

Supplied with high vacuum valve with PTFE O-ring at tip and PTFE wiper to protect Viton® O-ring on shaft.



Item #	Capacity (mL)	Joint	Valve Size
F541050	50	14/20	0-4mm
F541950	50	19/22	0-4mm
F541100	100	14/20	0-4mm
F549100	100	19/22	0-4mm
F544100	100	24/40	0-4mm
F541250	250	14/20	0-4mm
F549250	250	19/22	0-4mm
F544250	250	24/40	0-4mm
F544500	500	24/40	0-4mm
F54241L	1000	24/40	0-4mm
<b>Accessory:</b>			
S600004T	0-4mm PTFE Protected High Vacuum Valve (Fully Enclosed)		
R010	Viton® O-ring for 0-4mm High Vacuum P Shaft		

### FLASK, REACTION TUBE, HIGH VACUUM VALVE

Supplied with high vacuum valve with PTFE O-ring at tip and PTFE wiper (umbrella) to protect Viton® O-ring on shaft.



Item #	Capacity (mL)	Joint	Valve Size
F561025	25	14/20	0-4mm
F561050	50	14/20	0-4mm
F561100	100	14/20	0-4mm
F564100	100	24/40	0-4mm
F564250	250	24/40	0-4mm
F564350	350	24/40	0-4mm
<b>Accessories:</b>			
S600004T	0-4mm PTFE Protected High Vacuum Valve (Fully Enclosed)		
R010	Viton® O-ring for 0-4mm High Vacuum Plug Shaft		

### FLASK, REACTION, WITH GLASS STOPCOCK

With 2mm glass stopcock. With spring retention device for smooth turning purpose.

Item #	Capacity (mL)	Joint
F531050	50	14/20
F531100	100	14/20
F539100	100	19/22
F534100	100	24/40
F531250	250	14/20
F534250	250	24/40
F534500	500	24/40
<b>Accessories:</b>		
S461230	Replacement 2mm Glass Plug Only	
S691230	Replacement S.S. Retention for 2mm Glass stopcock	



### FLASK, REACTION, WITH TEFLON STOPCOCK

With 2mm Teflon stopcock.

Item #	Capacity (mL)	Joint
F531050S	50	14/20
F531100S	100	14/20
F539100S	100	19/22
F534100S	100	24/40
F531250S	250	14/20
F534250S	250	24/40
F534500S	500	24/40
<b>Accessories:</b>		
S181125	Replacement 2mm Teflon® Plug Only	



### FLASK, REACTION, 2-NECK

With a 2mm glass stopcock having a constant pressure retention device.

Item #	Capacity (mL)	Joint
F161450	50	14/20
F161100	100	19/22
F169100	100	19/22
F164100	100	24/40
F164250	250	24/40
F164500	500	24/40
<b>Accessories:</b>		
S461230	Replacement 2mm Glass Plug Only	
S691230	Replacement S.S. Retention for 2mm Glass stopcock	



**FLASK, REACTION TUBE**

With an outer joint and 2mm glass or Teflon stopcock.



Item #	Capacity (mL)	Joint	Stopcock Type
F891410	10	14/20	Glass
F891425	25	14/20	Glass
F891450	50	14/20	Glass
F891950	50	19/22	Glass
F892450	50	24/40	Glass
F891100	100	14/20	Glass
F894100	100	24/40	Glass
F894200	200	24/40	Glass
F894250	250	24/40	Glass
F891410S	10	14/20	Teflon®
F891425S	25	14/20	Teflon®
F891450S	50	14/20	Teflon®
F891950S	50	19/22	Teflon®
F892450S	50	24/40	Teflon®
F891100S	100	14/20	Teflon®
F894100S	100	24/40	Teflon®
F894200S	200	24/40	Teflon®
F894250S	250	24/40	Teflon®
<b>Accessories:</b>			
S461230	Replacement 2mm Glass Plug Only		
S691230	Replacement S.S. Retention for 2mm Glass Stopcock		
S181125	Replacement 2mm Teflon® Plug Only		

### **FILTER FUNNEL, BUCHNER, INNER JOINT, PERFORATED PLATE**

For use with filter media.

Item #	Glass Disc Size (mm)	Capacity (mL)	Joint
F963014	32	30	14/20
F963024	32	30	24/40
F964014	42	60	14/20
F964024	42	60	24/40
F966024	60	150	24/40
F969024	90	600	24/40



### **FILTER FUNNEL, PERFORATED PLATE**

O.D. of disc is 24mm. For use with filter media.

Item #	Joint	O.D. (mm)
F932450	24/40	50
F932475	24/40	75
F932490	24/40	90



### **FILTER FUNNEL, FRITTED DISC**

Item #	Joint	O.D. (mm)
F932450X	24/40	50
F932475X	24/40	75
F932490X	24/40	90



### **FILTER FUNNEL**

O.D. of disc is 24mm.

Item #	Joint	O.D.(mm)	Porosity
F752450C	24/40	50	C
F752450M	24/40	50	M
F752475C	24/40	75	C
F752475M	24/40	75	M
F752490C	24/40	90	C
F752490M	24/40	90	M





### FUNNEL, POWDER

Funnels have a 60° side angle and a standard taper inner joint.

Item #	Top Dia. (mm)	Joint Size
F182450	50	24/40
F182475	75	24/40
F184100	100	24/40
F188100	100	29/42



### FUNNEL, POWDER, FLATTENED SIDE

Funnels have a 60° angled side with a standard taper inner joint.

Item #	Top Dia. (mm)	Joint Size
F191450	50	14/20
F191950	50	19/22
F192475	75	24/40
F192975	75	29/42
F194100	100	24/40
F198100	100	29/42



### FUNNEL, POWDER, 60° OFFSET

For use with multi-neck flasks.

Item #	Joint	Approx. Diameter at Top (mm)
F392475	24/40	75
F394100	24/40	100



### FUNNEL, SOLVENT ADDITION

Design of funnel permits addition of solvents to flash chromatography columns without disturbing the silica-gel/packing layer. Lower end of the funnel is closed and the stem has a series of small holes through which the solvent drains. Top of the funnel is 90mm in diameter with the stem size as listed.

Item #	Stem O.D. x Length (mm)
F291275	12x75
F291210	12x100
F291975	19x75
F291910	19x100
F292810	28x100
F292812	28x125

\* Fits column with 24/40 joint or 35/20 joint.

\* Fits column with large joint like 45/50 standard or 50/30 spherical joint.

### FILTER FUNNEL, BUCHNER, INNER JOINT

Not recommended for filtration where pressure would exceed 15psi.

Item #	Capacity (ML)	Joint	Frit O.D. (mm)	Porosity
F362014C	15	14/20	20	C
F362014M	15	14/20	20	M
F362019C	15	19/22	20	C
F362024C	15	24/40	20	C
F362024M	15	24/40	20	M
F363014C	30	14/20	30	C
F363014M	30	14/20	30	M
F363019C	30	19/22	30	C
F363019M	30	19/22	30	M
F363024C	30	24/40	30	C
F363024M	30	24/40	30	M
F364014C	60	14/20	40	C
F364014M	60	14/20	40	M
F364019C	60	19/22	40	C
F364019M	60	19/22	40	M
F364024C	60	24/40	40	C
F364024M	60	24/40	40	M
F366024C	150	24/40	60	C
F366024M	150	24/40	60	M
F366029C	150	29/42	60	C
F366029M	150	29/42	60	M
F368024C	350	24/40	80	C
F368024M	350	24/40	80	M
F369024C	600	24/40	90	C
F369024M	600	24/40	90	M



### CRUCIBLE, GOOCH, LOW FORM

With fritted disc.

Item #	Capacity (mL)	Frit O.D. (mm)	Porosity
F771520C	15	20	Coarse
F771520M	15	20	Medium
F773030C	30	30	Coarse
F773030M	30	30	Medium





### FILTER FUNNEL, BUCHNER

With sealed-in glass disc of the listed porosity. Not recommended for filtration where pressure would exceed 15 psi. XC-extra coarse, C-Coarse, M-Medium, F-Fine porosity.



Item #	Capacity (mL)	Disc O.D. (mm)	Porosity
F601002C	2	10	C
F601002M	2	10	M
F601002F	2	10	F
F602015X	15	20	XC
F602015C	15	20	C
F602015M	15	20	M
F602015F	15	20	F
F603030X	30	30	XC
F603030C	30	30	C
F603030M	30	30	M
F603030F	30	30	F
F604060X	60	40	XC
F604060C	60	40	C
F604060M	60	40	M
F604060F	60	40	F
F606150X	150	60	XC
F606150C	150	60	C
F606150M	150	60	M
F606150F	150	60	F
F608350X	350	80	XC
F608350C	350	80	C
F608350M	350	80	M
F608350F	350	80	F
F609600C	600	90	C
F609600M	600	90	M
F609600F	600	90	F
F601000X	1000	120	XC
F601000C	1000	120	C
F601000M	1000	120	M
F601000F	1000	120	F
F602000X	2000	150	XC
F602000C	2000	150	C
F602000M	2000	150	M
F602000F	2000	150	F
F605000X	5000	180	XC
F605000C	5000	180	C
F605000M	5000	180	M
F605000F	5000	180	F

### FUNNEL, FILTER, BUCHNER, PERFORATED PLATE

With sealed-in perforated glass disc to support filter media. Pressure may be used but should not exceed 15 psi. This design solves the contamination problem with a fritted disc and also the blindness problem with a ceramic Buchner funnel.

Item #	Glass Disc Size (mm)	Capacity (mL)
F804260	42	60
F806150	60	150
F808350	80	350
F809600	90	600



### GAS DISPERSION TUBE, FRITTED

Stem is 8mm O.D.×150mm length, XC stands for extra coarse porosity.

Item #	Disc Dia. (mm)	Porosity
F260810X	10	XC
F260810C	10	C
F260810M	10	M



### GAS DISPERSION TUBE, FRITTED, 15° ANGLE

The 15° angle permits tube to be inserted into vessels where a large opening is not available. Stem is 8mm O.D. x 150mm length, XC stands for extra coarse porosity.

Item #	Disc Dia. (mm)	Opening Required (mm)	Porosity
F271018M	10	18	M
F272025C	20	25	C
F272025M	20	25	M
F273035X	30	35	XC
F274045M	40	45	M



### GAS DISPERSION TUBE, FRITTED, 90° ANGLE

The 90° angle permits bubbles to be spread over a large area. Stem is 8mm O.D. × 150mm length. XC stands for extra coarse porosity.

Item #	Disc Dia. (mm)	Opening Required (mm)	Porosity
F282035M	20	35	M
F283045C	30	45	C
F284060X	40	60	C
F284060C	40	60	XC
F284060M	40	60	M




**FILTER, TUBE, FRITTED DISC**

Available with a choice of a coarse or medium porosity fritted disc.

Item #	Joint	Approximate Frit O.D. (mm)	Porosity
F701420C	14/20	20	C
F701420M	14/20	20	M
F701430C	14/20	30	C
F701430M	14/20	30	M
F702440C	24/40	36	C
F702440M	24/40	36	M

\*Used for airless system between 2 flasks – filters from one to another.

**FILTER, TUBE, FRITTED DISC**

With two 2mm glass stopcocks having constant pressure retention devices.



Item #	Joint	Approximate Frit O.D. (mm)	Porosity
F351430C	14/20	30	C
F351430M	14/20	30	M
F352440C	24/40	36	C
F352440M	24/40	36	M

**Accessories:**

S461230	Replacement 2mm Glass Plug Only
S691230	Replacement S.S Retention for 2mm Glass Stopcock


**FUNNEL, ADDITION, HIGH VACUUM VALVE**

Supplied with high vacuum valve with PTFE O-ring at tip and PTFE wiper to protect Viton® O-ring on shaft.

Item #	Joint	Capacity (mL)
F551060	14/20	100
F554200	24/40	250

**Accessories:**

S600004T	04mm PTFE Protected High Vacuum Valve (Fully Enclosed)
R010	Viton® O-ring for 04mm High Vacuum Plug Shaft

### PEPTIDE SYNTHESIS VESSEL, SOLID PHASE

With a fritted disc of coarse or medium porosity to support resin. Top of the vessel has GL thread and a Teflon<sup>®</sup> lined screw cap. Teflon<sup>®</sup> stopcock has a 2mm bore with the arm being 8mm O.D.

Item #	Capacity (mL)	Fritted Disc O.D. (mm)	GL Thread Size
P120010C	10	15	14
P120010M	10	15	14
P120025C	25	20	25
P120025M	25	20	25
P120050C	50	25	25
P120050M	50	25	25

#### Accessories:

S181125	Replacement 2mm Teflon <sup>®</sup> Plug Only
GL14	Nylon <sup>®</sup> Cap 14mm
R14	PTFE Septum 14mm
GL25	Nylon <sup>®</sup> Cap 25mm
R25	PTFE Septum 25mm



### PEPTIDE SYNTHESIS VESSEL, SOLID PHASE, T-BORE TEFLON<sup>®</sup> STOPCOCK

With a fritted disc of coarse or medium porosity to support resin. Top of the vessel has GL thread and a Teflon<sup>®</sup> lined screw cap. Teflon<sup>®</sup> stopcock has a 2mm bore with the arm being 8mm O.D.

Item #	Capacity (mL)	Fritted Disc O.D. (mm)	GL Thread Size
P130010C	10	15	14
P130050C	50	25	25
P130050M	50	25	25
P130100C	100	40	25
P130100M	100	40	25

#### Accessories:

S201530	2mm Teflon <sup>®</sup> T-bore Stopcock Plug
GL14	Nylon <sup>®</sup> Cap 14mm
R14	PTFE Septum 14mm
GL25	Nylon <sup>®</sup> Cap 25mm
R25	PTFE Septum 25mm





### PEPTIDE SYNTHESIS VESSEL, SOLID PHASE, T-BORE, VACUUM

A connection of 8mm O.D. is sealed on the inner joint for connection to an inner gas. With a fritted disc of coarse or medium porosity to support resin. Top of the vessel has GL thread and a Teflon<sup>®</sup> lined screw cap. Teflon<sup>®</sup> stopcock has a 2mm bore with the arm being 8mm O.D.

Item #	Capacity (mL)	Fritted Disc O.D. (mm)	GL Thread size
P140010M	10	15	14
P140025M	25	20	25
P140050M	50	25	25
P140100M	100	40	25
<b>Accessories:</b>			
S201530	2mm Teflon <sup>®</sup> T-bore Stopcock Plug		
GL14	Nylon <sup>®</sup> Cap 14mm		
R14	PTFE Septum 14mm		
GL25	Nylon <sup>®</sup> Cap 25mm		
R25	PTFE Septum 25mm		

### PEPTIDE SYNTHESIS VESSEL, WITH LOWER JOINT AND T-BORE PTFE PLUG

Solid phase peptide synthesis vessels feature 2mm PTFE stopcocks and fritted glass supports for resin beads during operation. The 24/40 inner drip joint can be assembled with other standard glassware. The vessel has an 8mm hose connection for vacuum and the stopcock has an 8mm O.D. sidearm for inert gas introduction. Vessels are supplied with a PTFE-faced silicone lined Nylon<sup>®</sup> cap.



Item #	Capacity (mL)	Fritted Disc O.D. (mm)	Porosity	GL Thread Size
P150025M	25	25	M	14
P150050C	50	30	C	25
P150050M	50	30	M	25
P150100M	100	45	M	25
P150250M	250	57	M	32
P150500M	500	80	M	32
<b>Accessories:</b>				
S201530	2mm Teflon <sup>®</sup> T-bore Stopcock Plug			
GL14	Nylon <sup>®</sup> Cap 14mm			
R14	PTFE Septum 14mm			
GL25	Nylon <sup>®</sup> Cap 25mm			
R25	PTFE Septum 25mm			
GL32	Nylon <sup>®</sup> Cap 32mm			
R32	PTFE Septum 32mm			

### NYLON<sup>®</sup> CAP WITH PROTECTED SEAL

Replacement caps for use with Solid Phase Reaction Vessels, with PTFE protected silicone septum.

Item #	Size (mm)	Material
GL14	14	Nylon <sup>®</sup>
GL25	25	Nylon <sup>®</sup>
GL32	32	Nylon <sup>®</sup>



### SEPTUM, TEFLON<sup>®</sup>

For use with Nylon cap.

Item #	Size (mm)	Material
R14	14	PTFE
R25	25	PTFE
R32	32	PTFE



### REACTION VESSEL, PHOTOCHEMICAL, INTERNAL THREAD

Reaction vessel constructed of borosilicate glass to accommodate immersion well. With #50 internal thread at top which accepts a RC50 bushing and Viton<sup>®</sup> O-ring to form a compression seal with the immersion well. One 14/20 joint for sparger tube, one 24/40 vertical joint for condenser, and one #7 internal thread side arm for thermometer. Complete with quartz immersion well, caps, and O-rings.

Item #	Capacity (mL)
V150500	500
<b>Accessories:</b>	
RC50	Bushing, #50, Nylon Cap Only
R225	O-ring for #50 Internal Thread
RC7	Nylon <sup>®</sup> Cap for #7 Internal Thread
R008	O-ring for #7 Internal Thread



### IMMERSION WELL, PHOTOCHEMICAL, QUARTZ, WITHOUT JOINT

Double-walled quartz immersion well for use with V150500 reactor and lamp. A small diameter inner tube extends down the annular space to ensure flow or coolant from bottom of well upward to outlet. Well is used with RC50 Nylon<sup>®</sup> Bushing with a Viton<sup>®</sup> O-ring to form a compression type seal with threaded vessels. Well offers a greaseless connection and can be adjusted to desired height. The lack of the ground joint means dismantling since there is no freezing.

Item #	Capacity (mL)
V190390	390mm



### PRESSURE VESSEL, HEAVY WALL

Heavy wall cylindrical vessels have an internal thread for use with a Teflon<sup>®</sup> bushing as a pressure seal. This unique design allows hand tightening and loosening for easy access into the vessel. The O-ring is positioned on the bushing above the thread for improved sealing. The vessels are useful for pressure reactions and applications such as polymerization and analysis of halogens by thermal decomposition in the presence of lime. Complete apparatus is supplied with vessel, Teflon<sup>®</sup> bushing, and EP<sup>®</sup> O-ring.



Item #	Capacity (mL)	O.D. x Overall (mm)	GL Thread Size
P160701	1	13*25	#7
P160702	2	13*45	#7
P160704	4	13*80	#7
P160710	10	19*90	#7
P160020	20	26*110	#15
P160001	15	26*70	#15
P160002	35	26*125	#15
P160003	38	26*135	#15
P160004	48	46*70	#15
P160005	100	46*110	#15
P160006	120	46*130	#15

#### Accessories:

R107EP	EP Oring, #7 GL Thread
B100007	Teflon <sup>®</sup> Bushing with Viton <sup>®</sup> O-ring, #7
R111EP	EP Oring, #15 GL Thread
B100015	Teflon <sup>®</sup> Bushing with Viton <sup>®</sup> O-ring, #15

### PRESSURE VESSEL, HEAVY WALL, PROTECTIVE COVERING

Due to the protective coating, this product has a working temperature of -40 °C to 80 °C. Complete apparatus is supplied with vessel, Teflon<sup>®</sup> bushing and EP<sup>®</sup> O-ring.

\*Protective coating may become yellow over time; this does not affect product integrity.



Item #:	Capacity (mL)	O.D. x Overall (mm)	GL Thread Size
P160001D	15	26x70	#15
P160002D	35	26x125	#15
P160003D	38	26x135	#15
P160004D	48	46x70	#15
P160005D	100	46x110	#15
P160006D	120	46x130	#15

#### Accessories:

R111EP	EP O-ring, #15 GL Thread
B100015	Teflon Bushing with EP O-ring, 15mm

#### \*Important Warnings for Pressurized Glassware:

Due to varying conditions, we cannot guarantee glass vessels from breakage under pressure. Always work behind a safety shield.

\*Maximum Pressure: 88 psi at room temperature.



### PRESSURE VESSEL, HEAVY WALL

Heavy wall round bottom vessels have an internal thread for use with a 15mm Teflon® bushing as a pressure seal. This unique design allows hand tightening and loosening for easy access into the vessel. The O-ring is positioned on the bushing above the thread for improved sealing. The vessels are useful for pressure reactions and applications such as polymerization and analysis of halogens by thermal decomposition in the presence of lime.

Item #	Capacity (mL)	O.D. x Overall (mm)	GL Thread Size	Supplied
P170001	75	46*90	15	Complete
P170002	75	46*90	25	Complete
P170003	150	60*100	15	Complete
P170004	150	60*100	25	Complete
P170005	350	80*115	15	Complete
P170006	350	80*115	25	Complete
<b>Accessories:</b>				
B100015	Teflon® Bushing with Viton® O-ring, 15mm			
R111EP	EP O-ring, #7 GL Thread			
B100025	Teflon® Bushing with Viton® O-ring, 25mm			
R212EP	EP O-ring, #25 GL Thread			



### PRESSURE VESSEL, HEAVY WALL, PROTECTIVE COVERING

Heavy wall round bottom vessels have an internal thread for use with a 15mm Teflon® bushing as a pressure seal. This unique design allows hand tightening and loosening for easy access into the vessel. The O-ring is positioned on the bushing above the thread for improved sealing. The vessels are useful for pressure reactions and applications such as polymerization and analysis of halogens by thermal decomposition in the presence of lime. Due to the protective coating, this product has a working temperature of -40 °C to 80 °C. Complete apparatus is supplied with vessel, Teflon® bushing and EP® O-ring. \*Protective coating may become yellow over time; this does not affect product integrity.

Item #:	Capacity (mL)	O.D. x Overall (mm)	GL Thread Size
P170001D	75	46×90	#15
P170002D	75	46×90	#25
P170003D	150	60×100	#15
P170004D	150	60×100	#25
P170005D	350	80×115	#15
P170006D	350	80×115	#25
<b>Accessories:</b>			
B100015	Teflon® Bushing with Viton® O-ring, 15mm		
R111EP	EP O-ring, #7 GL Thread		
B100025	Teflon® Bushing with Viton® O-ring, 25mm		
R212EP	EP O-ring, #25 GL Thread		



**\*Important Warnings for Pressurized Glassware:** Due to varying conditions, we cannot guarantee glass vessels from breakage under pressure. Always work behind a safety shield.

**\*Maximum Pressure:** 88 psi at room temperature


**FUNNEL, FILTER, FRITTED DISC**

With two 2mm glass stopcocks.

Item #	Joint	Frit O.D. (mm)	Porosity	Capacity (mL)
F973014C	14/20	30	Coarse	60
F973014M	14/20	30	Medium	60
F973024C	24/40	30	Coarse	60
F973024M	24/40	30	Medium	60
<b>Accessories:</b>				
S461230	Replacement 2mm Glass Plug Only			
S691230	Replacement S.S Retention for 2mm Glass Stopcock			

**FUNNEL, FILTER, FRITTED DISC**

With a 0-4mm high vacuum valve and a 2mm glass stopcock having a constant pressure retention device.



Item #	Joint	Frit O.D. (mm)	Porosity	Capacity (mL)
F371460M	14/20	30	Medium	60
F374200C	24/40	40	Coarse	200
F374200M	24/40	40	Medium	200
<b>Accessories:</b>				
S461230	Replacement 2mm Glass Plug Only			
S691230	Replacement S.S Retention for 2mm Glass Stopcock			
S600004T	04mm PTFE Protected High Vacuum Valve (Fully Enclosed)			
R010	Viton® Oring for 04mm High Vacuum Plug Shaft			

# **FUNNEL, SEPARATORY**

With 2mm Teflon® stopcock. Supplied with a glass stopper or PTFE stopper.

Item #	Capacity (mL)	Joint	PTFE Stopcock (mm)	Stopper
F451010	10	14/20	2	PTFE
F451010A	10	14/20	2	GLASS
F451025	25	14/20	2	PTFE
F451025A	25	14/20	2	GLASS
F459025	25	19/22	2	PTFE
F451050	50	14/20	2	PTFE
F451050A	50	14/20	2	GLASS
F459050	50	19/22	2	PTFE
F451100	100	14/20	2	PTFE
F451100A	100	14/20	2	GLASS
F459100	100	19/22	2	PTFE
F459100A	100	19/22	2	GLASS
F451125	125	14/20	2	PTFE
F451125A	125	14/20	2	GLASS
F459125	125	19/22	2	PTFE
F459125A	125	19/22	2	GLASS
F454125	125	24/40	2	PTFE
F454125A	125	24/40	2	GLASS
F451250	250	14/20	4	PTFE
F451250A	250	14/20	4	GLASS
F459250	250	19/22	4	PTFE
F459250A	250	19/22	4	GLASS
F454250	250	24/40	4	PTFE
F454250A	250	24/40	4	GLASS

## **Accessories:**

S181125	Replacement 2mm Teflon® Plug Only
S181530	Replacement 4mm Teflon® Plug Only
S401420	14/20 Hollow Glass Stopper, Pennyhead
S401922	19/22 Hollow Glass Stopper, Pennyhead
S402440	24/40 Hollow Glass Stopper, Pennyhead
S111420	14/20 Teflon® Stopper
S111922	19/22 Teflon® Stopper
S112440	24/40 Teflon® Stopper



**FUNNEL, SEPARATORY**

Item #	Capacity (mL)	Joint	PTFE Stopcock (mm)	Stopper
F471010	10	14/20	2	PTFE
F471025	25	14/20	2	PTFE
F479025	25	19/22	2	PTFE
F471330	30	#13	2	PTFE
F471050	50	14/20	2	PTFE
F479050	50	19/22	2	PTFE
F471660	60	#16	2	PTFE
F471100	100	14/20	2	PTFE
F479100	100	19/22	2	PTFE
F471125	125	14/20	2	PTFE
F479125	125	19/22	2	PTFE
F474125	125	24/40	2	PTFE
F472125	125	#22	2	PTFE
F479250	250	19/22	2	PTFE
F474250	250	24/40	4	PTFE
F472925	250	29/42	4	PTFE
F472250	250	#22	4	PTFE
F472950	500	29/42	4	PTFE
F477500	500	#27	4	PTFE
F474000	1000	24/40	4	PTFE
F477000	1000	#27	4	PTFE
<b>Accessories:</b>				
S111420		14/20 Teflon <sup>®</sup> Stopper		
S111922		19/22 Teflon <sup>®</sup> Stopper		
S112440		24/40 Teflon <sup>®</sup> Stopper		
S112942		29/42 Teflon <sup>®</sup> Stopper		
S120013		#13 Teflon <sup>®</sup> Stopper		
S120016		#16 Teflon <sup>®</sup> Stopper		
S120022		#22 Teflon <sup>®</sup> Stopper		
S120027		#27 Teflon <sup>®</sup> Stopper		
S181125		Replacement 2mm Teflon <sup>®</sup> Plug Only		
S181530		Replacement 4mm Teflon <sup>®</sup> Plug Only		

\*Stem OD is approx. 10mm.



## FUNNEL, SEPARATORY

Item #	Capacity (mL)	Joint	PTFE Stopcock (mm)	Stopper
F471010A	10	14/20	2	GLASS
F479010A	10	19/22	2	GLASS
F471025A	25	14/20	2	GLASS
F479025A	25	19/22	2	GLASS
F471330A	30	#13	2	GLASS
F471050A	50	14/20	2	GLASS
F479050A	50	19/22	2	GLASS
F471660A	60	#16	2	GLASS
F471100A	100	14/20	2	GLASS
F479100A	100	19/22	2	GLASS
F471125A	125	14/20	2	GLASS
F479125A	125	19/22	2	GLASS
F474125A	125	24/40	2	GLASS
F472125A	125	#22	2	GLASS
F479250A	250	19/22	2	GLASS
F474250A	250	24/40	4	GLASS
F472925A	250	29/42	4	GLASS
F472250A	250	#22	4	GLASS
F472950A	500	29/42	4	GLASS
F477500A	500	#27	4	GLASS
F474000A	1000	24/40	4	GLASS
F477000A	1000	#27	4	GLASS
<b>Accessories:</b>				
S401420	14/20 Hollow Glass Stopper Penny-head			
S401922	19/22 Hollow Glass Stopper Penny-head			
S402440	24/40 Hollow Glass Stopper Penny-head			
S402942	29/42 Hollow Glass Stopper Penny-head			
S280013	#13 Glass Stopper Penny-head			
S280016	#16 Glass Stopper Penny-head			
S280022	#22 Glass Stopper Penny-head			
S280027	#27 Glass Stopper Penny-head			
S181125	Replacement 2mm Teflon® Plug Only			
S181530	Replacement 4mm Teflon® Plug Only			

\*Stem OD is approx. 10mm.



**FUNNEL, SEPARATORY, SQUIBB, GLASS STOPCOCK**

Supplied complete with a flask length glass stopper of the listed size.



Item #	Capacity (mL)	Stopper Size	Stopcock Bore (mm)	Stopper
F780030	30	#13	2	Glass
F780060	60	#16	2	Glass
F780125	125	#22	2	Glass
F780250	250	#22	4	Glass
F780500	500	#27	4	Glass
F787000	1000	#27	4	Glass

**Accessories:**

S461230	Replacement 2mm Glass Plug Only			
S461740	Replacement 4mm Glass Plug Only			
S691230	Replacement S.S. Retention for 2mm Glass Stopcock			
S691740	Replacement S.S. Retention for 2mm Glass Stopcock			
S280013	#13 Glass Stopper, Pennyhead			
S280016	#16 Glass Stopper, Pennyhead			
S280022	#22 Glass Stopper, Pennyhead			
S280027	#27 Glass Stopper, Pennyhead			
S120013	Stopper, Teflon, Flask Length, #13			
S120016	Stopper, Teflon, Flask Length, #16			
S120022	Stopper, Teflon, Flask Length, #22			
S120027	Stopper, Teflon, Flask Length, #27			

**FUNNEL SEPARATORY SURE-GRIP**

Globe shaped separatory funnel with a long stopper neck and straight section between the funnel body and stopcock, which provides a secure grip while shaking, and also aids in clamping. Available with Teflon<sup>®</sup> stopcocks. Supplied complete with one listed size Teflon<sup>®</sup> or glass stopper.



Item #	Capacity (mL)	Stopper Size	PTFE Stopcock Bore (mm)	Stopper
F687500A	500	#27	4	Glass
F687000A	1000	#27	4	Glass
F687000	1000	#27	4	PTFE
F68272LA	2000	#27	4	Glass
F68272L	2000	#27	4	PTFE

**Accessories:**

S181530	Replacement 4mm Teflon <sup>®</sup> Plug Only			
S280027	#27 Glass Stopper, Pennyhead			
S120027	#27 Teflon <sup>®</sup> Stopper			

### FUNNEL, PRESSURE EQUALIZING, TEFLON® METERING STOPCOCK

With Teflon® adjustable bore metering plug. Turning the adjustment knob allows flow rate to be controlled from full flow to drop wise. The metering plug completely solves the problems of sudden overflow or non-flow during addition of reagents.

Item #	Capacity (mL)	Joint	Stopcock Bore (mm)
F611410	10	14/20	2
F611425	25	14/20	2
F611925	25	19/22	2
F611460	60	14/20	2
F611960	60	19/22	2
F612460	60	24/40	2
F614125	125	24/40	2
F614250	250	24/40	2
F614500	500	24/40	4

#### Accessories:

S191125	Replacement 2mm Teflon® Metering Only
S191530	Replacement 4mm Teflon® Metering Only



### FUNNEL, PRESSURE EQUALIZING

With 1:5 Teflon® stopcock.

Item #	Capacity (mL)	Joint	Stopcock Bore (mm)
F621410	10	14/20	2
F621425	25	14/20	2
F622425	25	24/40	2
F621460	60	14/20	2
F621960	60	19/22	2
F622460	60	24/40	2
F621125	125	14/20	2
F629125	125	19/22	2
F624125	125	24/40	2
F629250	250	19/22	2
F624250	250	24/40	2
F624500	500	24/40	4
F62241L	1000	24/40	4

#### Accessories:

S181125	Replacement 2mm Teflon® Plug Only
S181530	Replacement 4mm Teflon® Plug Only






**FUNNEL, PRESSURE EQUALIZING, GLASS STOPCOCK**

With glass stopcock, graduated.

Item #	Capacity (mL)	Joint	Stopcock Bore (mm)
F621410G	10	14/20	2
F621425G	25	14/20	2
F621460G	60	14/20	2
F622460G	60	24/40	2
F621125G	125	14/20	2
F624250G	250	24/40	2
<b>Accessories:</b>			
S461230	Replacement 2mm Glass Plug Only		
S691230	Replacement S.S. Retention for 2mm Glass Stopcock		


**FUNNEL, PRESSURE EQUALIZING, TEFLON® STOPCOCK**

With straight bore Teflon® stopcock in pressure equalizing line, graduated.

Item #	Capacity (mL)	Joint	Stopcock Bore(mm)
F671425	25	14/20	2
F672460	60	24/40	2
F674125	125	24/40	2
F674250	250	24/40	2
F674500	500	24/40	4
F67241L	1000	24/40	4
<b>Accessories:</b>			
S181125	Replacement 2mm Teflon® Plug Only		
S181530	Replacement 4mm Teflon® Plug Only		


**FUNNEL, PRESSURE EQUALIZING, HIGH VACUUM VALVE**

With Teflon® extended tip valve for semi-needle valve adjustment.

Item #	Capacity (mL)	Joint	Stopcock Bore (mm)
F641425	25	14/20	0-4mm
F641460	60	14/20	0-4mm
F641960	60	19/22	0-4mm
F642460	60	24/40	0-4mm
F641125	125	14/20	0-4mm
F649125	125	19/22	0-4mm
F644125	125	24/40	0-4mm
F644250	250	24/40	0-4mm
<b>Accessories:</b>			
S660004T	0-4mm High Vacuum Metering Plug and Control Knob		
R010	Viton® O-ring for 0-4mm high vacuum plug shaft		

### MANIFOLD, VACUUM/INERT GAS, DOUBLE

General purpose double bank manifold for use with vacuum and inert gas. Supplied with 0-4mm high vacuum valves for grease-free operation. Both banks are made from 22mm medium wall tubing and have all banks open. Ports are spaced 100mm center to center and have an O.D. of 10mm.

Item #	Number of Ports	Overall Width	Valve Orifice (mm)
M111004	4	450	0-4mm
M111005	5	550	0-4mm
<b>Accessories:</b>			
S540004	0-4mm High Vacuum Plug and Control Knob. (With Viton® O-ring at tip)		
R010	Viton® O-ring for 0-4mm High Vacuum Plug Shaft		
R007	Viton® O-ring for 0-4mm High Vacuum Valve Tip O-ring		



### MANIFOLD, VACUUM/INERT GAS, DOUBLE

Same as the manifold above except with front-left and rear-right 10mm hose connections.

Item #	Number of Ports	Overall Width	Valve Orifice (mm)
M171005	5	550	0-4mm
<b>Accessories:</b>			
S540004	0-4mm High Vacuum Plug and Control Knob. (With Viton® O-ring at tip)		
R010	Viton® O-ring for 0-4mm High Vacuum Plug Shaft		
R007	Viton® O-ring for 0-4mm High Vacuum Valve Tip O-ring		



### MANIFOLD, VACUUM/INERT GAS, DOUBLE

Same as the manifold above except with front-left-right and rear-left 10mm hose connections.

Item #	Number of Ports	Overall Width	Valve Orifice (mm)
M101003	3	350	0-4mm
M101004	4	450	0-4mm
M101005	5	550	0-4mm
<b>Accessories:</b>			
S540004	0-4mm High Vacuum Plug and Control Knob (With Viton® O-ring at tip)		
R010	Viton® O-ring for 0-4mm High Vacuum Plug Shaft		
R007	Viton® O-ring for 0-4mm High Vacuum Valve Tip O-ring		



### MANIFOLD, VACUUM/INERT GAS, DOUBLE

Same as the manifold above except with front- right and rear- left 10mm hose connections.

Item #	Number of Ports	Overall Width	Valve Orifice (mm)
M141004	4	450	0-4mm
M141005	5	550	0-4mm
<b>Accessories:</b>			
S540004	0-4mm High Vacuum Plug and Control Knob (With Viton <sup>®</sup> O-ring at tip)		
R010	Viton <sup>®</sup> O-ring for 0-4mm High Vacuum Plug Shaft		
R007	Viton <sup>®</sup> O-ring for 0-4mm High Vacuum Valve Tip O-ring		



### MANIFOLD, VACUUM/INERT GAS, DOUBLE

Same as the manifold above except with front-left and rear-left-right 10mm hose connections.

Item #	Number of Ports	Overall Width	Valve Orifice (mm)
M471004	4	450	0-4mm
M471005	5	550	0-4mm
<b>Accessories:</b>			
S540004	0-4mm High Vacuum Plug and Control Knob (With Viton <sup>®</sup> O-ring at tip)		
R010	Viton <sup>®</sup> O-ring for 0-4mm High Vacuum Plug Shaft		
R007	Viton <sup>®</sup> O-ring for 0-4mm High Vacuum Valve Tip O-ring		



### MANIFOLD, VACUUM/INERT GAS, ALL GLASS

With 4mm double oblique, high vacuum hollow glass stopcocks precision ground with corresponding numbers on barrel and plug. Back/upper vacuum chambers on stopcock are evacuated with a separate hole in the plug in order to hold the plug into the stopcock barrels. Beams are 22mm O.D. with front-left-right and rear-left right 10mm hose connections. The distance between stopcocks is 75mm center to center.

Item #	Number of Ports	Overall Width (mm)
M411003	3	300
M411004	4	375
M411005	5	450



### MANIFOLD, VACUUM/INERT GAS, ALL GLASS

With 4mm double oblique, high vacuum hollow glass stopcocks precision ground with corresponding numbers on barrel and plug. Back/upper vacuum chambers on stopcock are evacuated with a separate hole in the plug in order to hold the plug into the stopcock barrels. Beams are 22mm O.D. with front-left and rear-right 10mm hose connections. The distance between stopcocks is 75mm center to center.

Item #	Number of Ports	Overall Width (mm)
M181003	3	300
M181004	4	375
M181005	5	450



### MANIFOLD, VACUUM/INERT GAS, ALL GLASS

With 4mm double oblique, high vacuum hollow glass stopcocks precision ground with corresponding numbers on barrel and plug. Back/upper vacuum chambers on stopcock are evacuated with a separate hole in the plug in order to hold the plug into the stopcock barrels. Beams are 22mm O.D. with front-right and rear-left 10mm hose connections. The distance between stopcocks is 75mm center to center.

Item #	Number of Ports	Overall Width (mm)
M401004	4	375
M401005	5	450



### MANIFOLD, VACUUM/INERT GAS, ALL GLASS

With 4mm double oblique, high vacuum hollow glass stopcocks precision ground with corresponding numbers on barrel and plug. Back/upper vacuum chambers on stopcock are evacuated with a separate hole in the plug in order to hold the plug into the stopcock barrels. Beams are 22mm O.D. with front-left-right and rear-left 10mm hose connections. The distance between stopcocks is 75mm center to center.

Item #	Number of Ports	Overall Width (mm)
M421003	3	300
M421004	4	375
M421005	5	450



### MANIFOLD, VACUUM/INERT GAS, ALL GLASS

With 4mm double oblique, high vacuum hollow glass stopcocks precision ground with corresponding numbers on barrel and plug. Back/upper vacuum chambers on stopcock are evacuated with a separate hole in the plug in order to hold the plug into the stopcock barrels. Beams are 22mm O.D. with front-left-right and rear-right 10mm hose connections. The distance between stopcocks is 75mm center to center.

Item #	Number of Ports	Overall Width (mm)
M431003	3	300
M431004	4	375
M431005	5	450





### MANIFOLD, VACUUM/INERT GAS, ALL GLASS

With 4mm double oblique, high vacuum hollow glass stopcocks precision ground with corresponding numbers on barrel and plug. Back/upper vacuum chambers on stopcock are evacuated with a separate hole in the plug in order to hold the plug into the stopcock barrels. Beams are 22mm O.D. with front-left and rear-left-right 10mm hose connections. Distance between stopcocks is 75mm center to center.

Item #	Number of Ports	Overall Width (mm)
M441005	5	450



### MANIFOLD, VACUUM/INERT GAS, ALL GLASS

With 4mm double oblique, high vacuum hollow glass stopcocks precision ground with corresponding numbers on barrel and plug. Back/upper vacuum chambers on stopcock are evacuated with a separate hole in the plug in order to hold the plug into the stopcock barrels. Beams are 22mm O.D. with front-right and rear-left-right 10mm hose connections. The distance between stopcocks is 75mm center to center.

Item #	Number of Ports	Overall Width (mm)
M451004	4	375
M451005	5	450



### MANIFOLD, HIGH VACUUM SOLID GLASS STOPCOCKS

With 4mm double oblique, high vacuum solid glass stopcocks precision ground with corresponding numbers on barrel and plug. Solid glass stopcocks have constant pressure retention devices. Beams are 22mm O.D. with front-left-right and rear-left-right 10mm hose connections. The distance between stopcocks is 75mm center to center.

Item #	Number of Ports	Overall Width (mm)
M250003	3	300
M250004	4	375
M250005	5	450
<b>Accessory:</b>		
S691656	Replacement Stainless Steel Retention Kit For 16.2/56 Glass Stopcock	



### MANIFOLD, HIGH VACUUM SOLID GLASS STOPCOCKS

With 4mm double oblique, high vacuum solid glass stopcocks precision ground with corresponding numbers on barrel and plug. Solid glass stopcocks have constant pressure retention devices. Beams are 22mm O.D. with front-left and rear-right 10mm hose connections. The distance between stopcocks is 75mm center to center.

Item #	Number of Ports	Overall Width (mm)
M230003	3	300
M230004	4	375
M230005	5	450
<b>Accessory:</b>		
S691656	Replacement Stainless Steel Retention Kit For 16.2/56 Glass Stopcock	

### MANIFOLD, HIGH VACUUM SOLID GLASS STOPCOCKS

With 4mm double oblique, high vacuum solid glass stopcocks precision ground with corresponding numbers on barrel and plug. Solid glass stopcocks have constant pressure retention devices. Beams are 22mm O.D. with front-left and rear-left-right 10mm hose connections. The distance between stopcocks is 75mm center to center.

Item #	Number of Ports	Overall Width (mm)
M290004	4	375
M290005	5	450
<b>Accessory:</b>		
S691656	Replacement Stainless Steel Retention Kit For 16.2/56 Glass Stopcock	



### MANIFOLD, HIGH VACUUM SOLID GLASS STOPCOCKS

With 4mm double oblique, high vacuum solid glass stopcocks precision ground with corresponding numbers on barrel and plug. Solid glass stopcocks have constant pressure retention devices. Beams are 22mm O.D.

with front-right and rear-left-right 10mm hose connections. Distance between stopcocks is 75mm center to center.

Item #	Number of Ports	Overall Width (mm)
M300005	5	450
<b>Accessory:</b>		
S691656	Replacement Stainless Steel Retention Kit For 16.2/56 Glass Stopcock	



### MANIFOLD, HIGH VACUUM SOLID GLASS STOPCOCKS

With 4mm double oblique, high vacuum solid glass stopcocks precision ground with corresponding numbers on barrel and plug. Solid glass stopcocks have constant pressure retention devices. Beams are 22mm O.D. with front-right and rear-left 10mm hose connections. The distance between stopcocks is 75mm center to center.

Item #	Number of Ports	Overall Width (mm)
M240004	4	375
<b>Accessory:</b>		
S691656	Replacement Stainless Steel Retention Kit For 16.2/56 Glass Stopcock	





### MANIFOLD, HIGH VACUUM SOLID GLASS STOPCOCKS

With 4mm double oblique, high vacuum solid glass stopcocks precision ground with corresponding numbers on barrel and plug. Solid glass stopcocks have constant pressure retention devices. Beams are 22mm O.D. with front-left-right and rear-left 10mm hose connections.

The distance between stopcocks is 75mm center to center.



Item #	Number of Ports	Overall Width (mm)
M260003	3	300
M260004	4	375
M260005	5	450

#### Accessory:

S691656	Replacement Stainless Steel Retention Kit For 16.2/56 Glass Stopcock
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### MANIFOLD, HIGH VACUUM SOLID GLASS STOPCOCKS

With 4mm double oblique solid glass stopcocks have constant pressure retention devices. Beams are 22mm O.D. with front-left-right and rear-right 10mm hose connections. The distance between stopcocks is 75mm center to center.



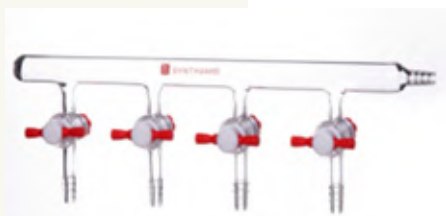
Item #	Number of Ports	Overall Width (mm)
M280004	4	375
M280005	5	450

#### Accessory:

S691656	Replacement Stainless Steel Retention Kit For 16.2/56 Glass Stopcock
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### VACUUM MANIFOLD, TEFLON® STOPCOCKS

General purpose manifold with 2mm or 4mm Teflon® stopcocks. Main tube is 22mm O.D. with serrated hose connection (10mm O.D.) at right side. Delivery ports have 10mm serrated hose connections. The distance between stopcocks is 75mm.



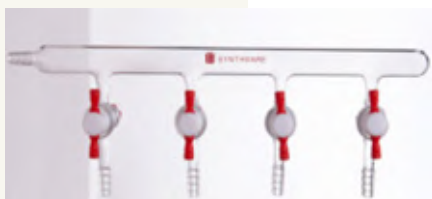
Item #	Number of Ports	Stopcock Bore (mm)
M190042	4	2
M190044	4	2
M190064	6	4

#### Accessory:

S181125	Replacement 2mm Teflon® Plug Only
S181530	Replacement 4mm Teflon® Plug Only

### VACUUM MANIFOLD, TEFLON® STOPCOCKS

General purpose manifold with 2mm or 4mm Teflon® stopcocks. Main tube is 22mm O.D. with serrated hose connection (10mm O.D.) at left side. Delivery ports have 10mm serrated hose connections. Distance between stopcocks is 75mm.



Item #	Number of Ports	Stopcock Bore (mm)
M500044	4	4
M500064	6	4

#### Accessory:

S181530	Replacement 4mm Teflon® Plug Only
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### VACUUM MANIFOLD, TEFLON® STOPCOCKS

General purpose manifold with 2mm or 4mm Teflon® stopcocks. Main tube is 22mm O.D. with serrated hose connection (10mm O.D.) at both ends. Delivery ports have 10mm serrated hose connections. The distance between stopcocks is 75mm.

Item #	Number of Ports	Stopcock Bore (mm)
M490042	4	2
M490044	4	4
M490062	6	2
M490064	6	4
<b>Accessory:</b>		
S181125	Replacement 2mm Teflon® Plug Only	
S181530	Replacement 4mm Teflon® Plug Only	



### MANIFOLD, NITROGEN/ARGON LINE, TEFLON®

With a 14/20 outer joint at the center to fit a rubber septum for keeping syringes under an inert environment, cutting down on the number used. Main tube is 22mm O.D. and both end connections (10mm). Delivery ports have 8mm hose connections.

Item #	Number of Ports	Stopcock Bore (mm)	Joint
M211042	4	2	14/20
M211044	4	4	14/20
<b>Accessory:</b>			
S181125	Replacement 2mm Teflon® Plug Only		
S181530	Replacement 4mm Teflon® Plug Only		



### MANIFOLD, NITROGEN/ARGON LINE, TEFLON®

With 14/20 outer joint at the center to fit a rubber septum for keeping syringes under an inert environment, cutting down on the number used. Main tube is 22mm O.D. with left hose connections (10mm). Delivery ports have 8mm hose connections.

Item #	Number of Ports	Stopcock Bore (mm)	Joint
M531042	4	2	14/20
<b>Accessory:</b>			
S181125	Replacement 2mm Teflon® Plug Only		



### MANIFOLD, NITROGEN/ARGON LINE, TEFLON®

With 14/20 outer joint at the center to fit a rubber septum for keeping syringes under an inert environment, cutting down on the number used. Main tube is 22mm O.D. with right hose connections (10mm). Delivery ports have 8mm hose connections.

Item #	Number of Ports	Stopcock Bore (mm)	Joint
M541044	4	4	14/20
<b>Accessory:</b>			
S181530	Replacement 4mm Teflon® Plug Only		





### VACUUM MANIFOLD, HIGH VACUUM VALVES

With a serrated hose connection (10mm O.D.) at right hand side. Main tube is 22mm O.D. and the distance between valves is 100mm center to center.

Item #	Number of Ports	Stopcock Bore (mm)	Overall Width (mm)
M202403	3	0-4	325
M202404	4	0-4	425
M202405	5	0-4	525
<b>Accessory:</b>			
S540004	0-4mm high Vacuum Plug and Control Knob (With Viton <sup>®</sup> O-ring at tip)		
R010	Viton <sup>®</sup> O-ring for 0-4mm High Vacuum Plug Shaft		
R007	Viton <sup>®</sup> O-ring for 0-4mm High Vacuum Valve Tip		

### VACUUM MANIFOLD, HIGH VACUUM VALVES

With a serrated hose connection (10mm O.D.) at left hand side. Main tube is 22mm O.D. and the distance between valves is 100mm center to center.

Item #	Number of Ports	Stopcock Bore (mm)	Overall Width (mm)
M522403	3	0-4	325
M522404	4	0-4	425
M522405	5	0-4	525
<b>Accessory:</b>			
S540004	0-4mm high Vacuum Plug and Control Knob (With Viton <sup>®</sup> O-ring at tip)		
R010	Viton <sup>®</sup> O-ring for 0-4mm High Vacuum Plug Shaft		
R007	Viton <sup>®</sup> O-ring for 0-4mm High Vacuum Valve Tip		



### MANIFOLD, DOUBLE, HOLLOW GLASS STOPCOCKS, SPHERICAL JOINT

With 35/20 ball joints and 4mm double oblique high vacuum hollow glass stopcocks precision ground with corresponding numbers on barrel and plugs. Back/upper vacuum chambers on stopcock are evacuated with a separate hole in the plug in order to hold the plug into the stopcock barrels. Ball sockets: front-left-right, rear-right.

Item #	Number of Ports	Overall Width (mm)	Glass Stopcock
M270004	4	365	Hollow
M270005	5	450	Hollow



### MANIFOLD, DOUBLE, HOLLOW GLASS STOPCOCKS, RIGHT HAND SIDE

With high vacuum hollow glass stopcocks. The smaller O.D. 17mm front tube is for inert gases and the larger O.D. 22mm back tube is for vacuum, which has a 35/20 socket on the right hand side. Hose connection: front-left.

Item #	Number of Ports	Hose Connections (mm)	Glass Stopcock
M340004	4	10	Hollow



### MANIFOLD, DOUBLE, HOLLOW GLASS STOPCOCKS, LEFT HAND SIDE

Similar to above manifold, but with the 35/20 socket on the left-hand side. Hose connection: front-left-right.

Item #	Number of Ports	Hose Connections (mm)	Glass Stopcock
M350004	4	10	Hollow



### MANIFOLD, DOUBLE, HIGH VACUUM VAVLE AND 35/20 SPHERICAL JOINT

This manifold is designed to incorporate a 0-8mm high vacuum valve as the vacuum shut-off. The front tube is for inert gases (17mm O.D.), with a 10mm hose connection. The rear tube is for vacuum (22mm O.D.), with two 35/20 socket joints. Please order each component separately.

Item #	Description
M360004	Vacuum/Gas Manifold
<b>Accessories:</b>	
S540008	0-8mm High Vacuum Plug and Control Knob (Viton® O-ring at Tip)
S450035	#35 Ball Stopper
CC3525	Clamps for 35/20 Ball Joint
R108	Tip O-ring for 0-8mm High Vacuum Valve Plug
R110	Shaft O-ring for 0-8mm High Vacuum Valve Plug



### MANIFOLD, WITH #15 O-RING JOINTS

With 4mm double hollow high vacuum stopcocks. This four-port manifold is fitted with two 14/20 and two 24/40 inner joints, and is 100mm center to center joints. #15 O-ring joint stopper (S480015) and #15 O-ring joint to serrated hose adapter need to be ordered separately. Viton® O-rings can be ordered using Part #: R116.



Item#	Description
M150004	Vacuum/Gas manifold
<b>Accessories:</b>	
CC2815	#15 O-ring Joint StainlessSteel Clamp
R116	#116 Viton® O-ring
S480015	#15 O-ring Joint Stopper
M131604	10mm O.D. Serrated Hose Connection
M131605	12mm O.D. Serrated Hose Connection

### MANIFOLD, VACUUM, SINGLE, WITH #15 O-RING JOINTS

Four ports are spaced 100mm center to center, with 0-8mm high vacuum valves mounted on a 45° angle to the operator for easy access. Overall width is 395mm. Standard taper components or stoppers are available below and need to be ordered separately.



Item#	Description
M311508	Vacuum Manifold, Single Bank
<b>Accessories:</b>	
S540008	0-8mm High Vacuum Plug and Control Knob, Viton® O-ring at Tip
CC2815	#15 O-ring Joint Stainless Steel Clamp
R116	#116 Viton® O-ring
S480015	#15 O-ring Joint Stopper
M131604	10mm O.D. Serrated Hose Connection
M131605	12mm O.D. Serrated Hose Connection

### MANIFOLD, DOUBLE BANK, WITH #15 O-RING JOINTS

Forward facing 0-8mm high vacuum valves allow easy operation of manifold inside of a fume hood. Main parts are spaced 100mm center to center. Adapter components or stoppers are available below and need to be ordered separately.



Item #	Description
M330804	Vacuum Manifold, Single Bank
<b>Accessories:</b>	
S540008	0-8mm High Vacuum Plug and Control Viton® O-ring at Tip.
CC2815	#15 O-ring Joint Stainless Steel Clamp
R116	#116 Viton® O-ring
S480015	#15 O-ring Joint Stopper
M131604	10mm O.D. Serrated Hose Connection
M131605	12mm O.D. Serrated Hose Connection

### MANIFOLD, SOLVENT TRANSFER

Supplied with a high vacuum valve with a PTFE O-ring at the tip and PTFE wiper to protect Viton® O-ring on the shaft

Item #	Joints	Overall Height * Width (mm)
M164380	24/40	140*380
<b>Accessory:</b>		
S600004T	0-4mm PTFE Protected High Vacuum Valve (Fully Enclosed)	



### STOPPER, WITH #15 O-RING JOINT

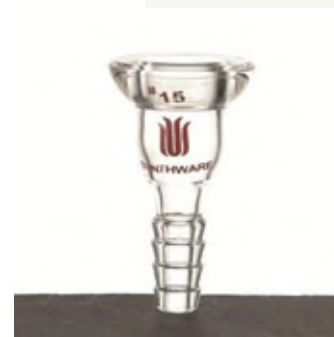
For use with manifolds having #15 O-ring joints. Supplied complete with one #116 (R116) Viton® O-ring.

Item #	Description
S480015	#15 O-ring Joint Stopper
<b>Accessories:</b>	
CC2815	#15 O-ring Joint Stainless Steel Clamp
R116	#116 Viton® O-ring



### ADAPTER, #15 O-RING JOINT TO SERRATED HOSE CONNECTION

Item #	Description
M131604	10mm O.D. Serrated Hose Connection
M131605	12mm O.D. Serrated Hose Connection
<b>Accessories:</b>	
CC2815	#15 O-ring Joint Stainless Steel Clamp
R116	#116 Viton® O-ring



### ADAPTER, #15 O-RING JOINT TO INNER JOINT

Item #	Description
M131514	From #15 O-ring Joint to 14/20 Inner Joint
M131519	From #15 O-ring Joint to 19/22 Inner Joint
M131524	From #15 O-ring Joint to 24/40 Inner Joint





### VACUUM TRAP, SPHERICAL JOINTS

With 35/20 spherical joints for added flexibility. Trap body is 50mm O.D. and 360 mm in length. Please order the three adapters and 35/20 SS pinch clamp separately.

Item #	Joint	Description
V175036	35/20	Vacuum Trap Body
V175037	35/20	Top Adapter, 16mm O.D. Outlet
V175038	35/20	Middle Adapter/Pump Adapter 16mm O.D. Outlet
V175039	35/20	Bottom Adapter, 16mm O.D. outlet
CC3525	35/20	Clamps for 35/20 Ball Joints



### VACUUM TRAP, 35/20 BALL JOINTS

For use with vacuum manifolds having 35/20 socket joints. Please order the pump adapter and socket clamp separately.

Item #	Joint	Outer Body O.D. (mm)	Length of Outer Body Below Joint (mm)
V415045	45/50	50	250
<b>Accessory:</b>			
V175038	Middle Adapter/Pump Adapter, 16mm O.D. Outlet		
CC3525	Clamps for 35/20 Ball Joints		



### VACUUM TRAP, #15 O-RING JOINT

Supplied with two R116 Viton® O-rings.

Item #	Joint	O.D. Outer Body (mm)	Outer Body Length Below Joint (mm)	O.D. Inner & Side Tube (mm)
V325045	45/50	50	250	18
<b>Accessories:</b>				
CC2815	#15 O-ring Joint Stainless Steel Clamp			
R116	#116 Viton® O-ring			
A910001	Adapter with #15 O-ring Joint, 19mm Outlet, 90° Angle			
A910002	Adapter with #15 O-ring Joint, 19mm Outlet, Straight			



### VACUUM TRAP, WITH #15 O-RING JOINTS

Two-piece design, with a 0-12mm high vacuum valve as the shut off. Connection is made via a 57mm O-ring flat flange (CC0057 supplied) and a #331 Viton® O-ring (Part #: R331 Supplied). Outer body length below flange is 300mm. Smaller size tubing adapters are also available below. Please order #15 O-ring joint stainless steel clamp (CC2815) separately.

Item #	Description
V381512	Vacuum Trap with #15 O-ring Joint
<b>Accessories:</b>	
S540012	0-12mm High Vacuum Plug and Control Knob (with Viton® O-ring at Tip)
CC0057	57mm Horseshoe Clamp
CC2815	#15 O-ring Joint Stainless Steel Clamp
R116	#116 Viton® O-ring
R331	#331 Viton® O-ring



### VACUUM TRAP, WITH #15 O-RING JOINT

For use with above manifolds with a #15 O-ring joint. The seal between upper and lower parts is made with a 57mm flat O-ring flange. The trap body is 57mm O.D. x 300mm in length. Complete trap assembly comes with CC0057 horseshoe clamp, one R331 Viton® O-ring, and two R116 Viton® O-rings.

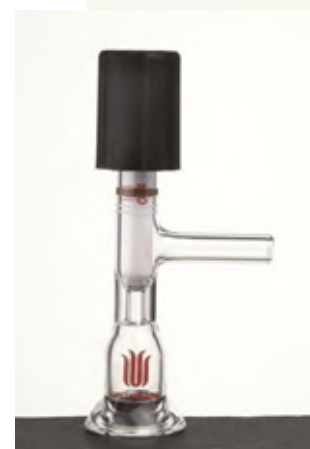
Item #	Description
V391557	Vacuum Trap Assembly, Complete
<b>Accessories:</b>	
CC0057	57mm Horseshoe Clamp
CC2815	#15 O-ring Joint Stainless Steel Clamp
R116	#116 Viton® O-ring
R331	#331 Viton® O-ring



### ADAPTER, CONNECTING, INLET

Adapter has a #15 O-ring joint with a 0-4 mm high vacuum valve at a 90° angle connected to a piece of 10mm O.D. medium wall tubing. Overall height is 100mm. Each adapter is supplied completely with one #116 Viton® O-ring.

Item #	Description
A560001	Adapter, 90°, with #15 O-ring Joint
<b>Accessories:</b>	
S540004	High vacuum valve, with Viton® O-ring at Tip
CC2815	#28 Clamp for #15 O-ring Joint
R116	#116 Viton® O-ring





### DUAL VACUUM TRAP ASSEMBLY, WITH #15 O-RING JOINTS

For use with manifold having a #15 O-Ring joint on banks. The O-Ring joint at the far left (A) is used to connect to the manifold via a pinch clamp (Pinch clamp not included). Assembly has a serrated hose connection on the right side (D). E and G are 0-12mm high vacuum valves to be used as shut offs. F is a 0-4mm high vacuum valve used to shut off a 9mm O.D tubing connection on the rear of the trap assembly. H is a 0-8mm high vacuum valve. The pre-trap (B) uses two 28/15 ball joints to add flexibility to the assembly. The pre-trap connects to the large trap (C) via a 57mm horseshoe clamp. Trap comes complete with two #15 O-Ring Joint clamps (CC2815) and two O-Rings (R116), one 57mm horseshoe clamp (CC0057) and one 57mm Flange O-Ring (R331). All high vacuum valves are included.



Item #	Description
V115712	Dual Trap Assembly, Complete
<b>Accessories:</b>	
S540004	0-4mm High Vacuum Plug and Control Knob Viton® O-ring at Tip.
S540008	0-8mm High Vacuum Plug and Control Knob Viton® O-ring at Tip.
S540012	0-12mm High Vacuum Plug and Control Knob Viton® O-ring at Tip
CC0057	57mm Horseshoe Clamp
CC2815	#15 O-ring Joint Stainless Steel Clamp
R116	#116 Viton® O-ring
R331	#331 Viton® O-ring

#### VACUUM TRAP, MICRO, DEWAR

Small scale dry ice, Dewar style trap. The dry-ice chamber is 40mm I.D. x 60mm in length. Choice of Glass or PTFE stopcock.

Item #	Lower Reservoir (MI)	Stopcock Type	Stopcock Bore (mm)
V200100G	100	Glass	2
V200100	100	Teflon®	2
<b>Accessory:</b>			
S181125	Replacement 2mm Teflon® Plug Only		
S461230	Replacement 2mm Glass Plug Only		
S691230	Replacement S.S Retention for 2mm Glass Stopcock		



#### VACUUM TRAP, DEWAR TYPE

Dry ice, Dewar style trap condenser designed for large volume solvent removal. Choice of Glass or PTFE stopcock. With 10mm hose connections.

Item #	Lower Reservoir (MI)	Stopcock Type	Stopcock Bore	Inner Chamber I.D. x Depth (mm)
V210250G	250	Glass	4	59*230
V210250	250	Teflon	4	59*230
V210500G	500	Glass	4	75*275
V210500	500	Teflon	4	75*275
V211000G	1000	Glass	4	95*330
V211000	1000	Teflon	4	95*330
<b>Accessory:</b>				
S181530	Replacement 4mm PTFE Plug Only			
S461740	Replacement 4mm Glass Plug Only			
S691740	Replacement S.S Retention for 2mm Glass Stopcock			




**VACUUM TRAP**

With joints for easy removal of condensate. Center tube hose connection is always 10mm for easy connection to manifold bank tubes which are also with 10mm hose connection.

Item #	Joint	O.D. Outer Body (mm)	Length, Outer Body Below Joint (mm)	O.D. Inner & Side Tube (mm)
V163024	24/40	30	200	10
V163229	29/42	32	200	10
V164034	34/45	40	225	16
V164050	40/50	45	250	16
V165045	45/50	50	250	22
V165050	50/50	55	275	26
V165550	55/50	60	300	30


**VACUUM TRAP**

With joints for easy removal of condensate. Body length is measured below the joint.

Item #	Joint	O.D. Outer Body (mm)	Outer Body Length Below Joint (mm)	O.D. Inner & Side Tube (mm)
V103029	29/42	32	200	10
V103834	34/45	40	225	13
V104045	40/50	50	250	16
V105045	45/50	50	250	22
V105050	50/50	55	275	26
V105550	55/50	60	300	30


**VACUUM TRAP**

Trap is designed for large volume solvent removal by vacuum. With 40/35 joint. Connections at center tube is 12mm O.D. while side tube is 10mm.

Item #	Flask Capacity (mL)	Fits Dewar Flask Size	Approx. Overall Height × Width (mm)
V120500	500	1900 mL	310 × 130
V121000	1000	4300 mL	340 × 130

#### STORAGE VESSEL, #15 O-RING JOINT

Storage vessel with a #15 O-ring joint on the sidearm and a high vacuum valve to control gas or liquid flow into the vessel. Supplied complete with one #116 Viton® O-ring.

Item #	Capacity (mL)	Valve Size	Approx. Height (mm)
S490050	50	0-4mm	190
S490100	100	0-8mm	235
S490350	350	0-8mm	240

#### Accessories Components:

S600004T	0-4mm PTFE Protected High Vacuum Valve (Fully Enclosed)		
S600008T	0-8mm PTFE Protected High Vacuum Valve (Fully Enclosed)		
CC2815	#28 Clamp for #15 O-ring Joint		
R116	#116 Viton® O-ring		



#### STORAGE FLASK, #15 O-RING JOINT

Flask has a #15 O-ring joint on the sidearm and a high vacuum valve to control gas or liquid flow into the vessel. Supplied complete with one #116 Viton® O-ring.

Item #	Capacity (mL)	Valve Size	Approx. Height (mm)
S520250	250	0-4mm	160
S520500	500	0-8mm	190
S521000	1000	0-8mm	220

#### Accessories Components:

S600008T	0-8mm PTFE Protected High Vacuum Valve (Fully Enclosed)		
CC2815	#28 Clamp for #15 O-ring Joint		
S600004T	0-4mm PTFE Protected High Vacuum Valve (Fully Enclosed)		
R116	#116 Viton® O-ring		



#### SOLVENT STILL HEAD, REPURIFICATION (GREASE-FREE)

Head only. Condenser and flasks not supplied. Access port has threaded 14/10 joint to accept a Teflon®-lined silicone septum with a compression cap (supplied). Threaded 14/10 joint also accepts a regular 14/20 glass or Teflon® stopper (not supplied).

Item #	Capacity (mL)	Joint
S134250	250	24/40
S134500	500	24/40

#### Accessories:

S211444	Replacement 4mm Double Oblique PTFE Plug	
RC112	Replacement Nylon® Compression Cap	
R1420	Replacement Teflon®-lined Silicone Septum	





### SOLVENT STILL HEAD

Similar to product listed above but with a drip tip on the delivery port instead of a 14/20 inner joint. With 4mm straight bore stopcock in the upper portion for easy syringe needle access.

Item #	Capacity (mL)	Top Joint	Bottom Joint
S234504	500	24/40	24/40
S234004	1000	24/40	24/40
<b>Accessories:</b>			
S181530	Replacement 4mm Teflon® Plug Only		
S201530	2mm Teflon® "T"bore Stopcock Plug		



### SOLVENT STILL HEAD

Syringe port has a 14/20 outer joint for a rubber septum and a 4mm Teflon® stopcock. Solvent is drained through 2mm T-bore Teflon® stopcock. The drainage arm has a 14/20 inner joint.

Item #	Capacity (mL)	Top Joint	Bottom Joint
S244504	500	24/40	24/40
S244004	1000	24/40	24/40
S244509	1000	24/40	29/42
<b>Accessories:</b>			
S181530	Replacement 4mm Teflon® Plug Only		
S201530	2mm Teflon® "T"bore Stopcock Plug		
A741420	Evacuation/Purging Adapter, 14/20		



### SOLVENT STILL HEAD, HIGH VACUUM VALVES

For great solvent/chemical resistance. The two 0-4mm high vacuum valves have Teflon® covers over the two Viton® O-rings on the shaft, as well as one integral Teflon® O-ring on the tip. This design aids in not exposing any material other than Teflon® to any solvents. Syringe port has a 4mm Teflon® stopcock and a 14/20 outer joint. The delivery port has 14/20 inner joint.

Item #	Capacity (mL)	Joint
S264250	250	24/40
<b>Accessories:</b>		
S181530	Replacement 4mm Teflon® Plug Only	
S660004T	0-4mm PTFE Protected High Vacuum Valve (Fully Enclosed)	
A741420	Evacuation/Purging Adapter, 14/20	

### SOLVENT STILL, BUILT-IN CONDENSER

Grease-free design. Same as product listed above, but with a 14/10 threaded joint and Teflon<sup>®</sup>-lined septum for syringe access.

Item #	Capacity (mL)	Joint
S144125	125	24/40
<b>Accessories:</b>		
S211444	Replacement 4mm Double Oblique PTFE Plug	
RC112	Replacement Nylon <sup>®</sup> Compression Cap	
R1420	Replacement Teflon <sup>®</sup> lined Silicone Septum	



### DISTILLING HEAD, SOLVENT

Upper sampling port has a 4mm Teflon<sup>®</sup> stopcock with a 14/20 outer joint for use with septa. Lower drain is centered to allow total drainage of storage head. Upper and lower joints are 24/40.

Item #	Takeoff Joint	Capacity (mL)	Double Oblique Stopcock Bore (mm)
S251250	14/20	250	2
S254250	24/40	250	2
S254500	24/40	500	2
S254000	24/40	1000	2
<b>Accessories:</b>			
S181530	Replacement 4mm Teflon <sup>®</sup> Plug Only		
S211944	Replacement 2mm Double Oblique PTFE Plug		




**STOPPER, PENNY-HEAD, GLASS, HOLLOW**

All sizes are with joints. Heavy wall design.

Item #	Joint
S401410	14/10
S401420	14/20
S401922	19/22
S402440	24/40
S402942	29/42
S403445	34/45
S404550	45/50


**STOPPER, PENNY-HEAD, GLASS, SOLID**

All sizes are with joints. Heavy wall design.

Item #	Joint
S291018	10/18
S291030	10/30
S291420	14/20
S291922	19/22
S292440	24/40
S292942	29/42


**STOPPER, GLASS, FLASK LENGTH, PENNY-HEAD**

All sizes are with joints. Heavy wall design.

Item #	Joint
S280013	# 13
S280016	# 16
S280019	# 19
S280022	# 22
S280027	# 27
S280032	# 32
S280038	# 38

\* All sizes are solid except #32 and #38, which are hollow


**STOPPER, CAP DESIGN**

For apparatus having an inner opening.

Item #	Joint
S391420	14/20
S392440	24/40
S392942	29/42



### STOPPER, SPHERICAL, PENNY-HEAD

Hollow stopper for use with spherical socket joint.

Item #	Description
S450035	35/20 Ball Joint
<b>Accessory:</b>	
CC3525	Metal Clamp for 35/20 or 35/25 Spherical Joint



### STOPPER, TEFLON®

Teflon® handle stoppers for easy gripping.

Item #	Joint
S111420	14/20
S111922	19/22
S112425	24/25
S112440	24/40
S112942	29/42
S113445	34/45



### STOPPER, TEFLON®, FLASK LENGTH

Teflon® handle stoppers for easy gripping.

Item #	Joint
S120013	#13
S120016	#16
S120022	#22
S120027	#27
S120038	#38



### STOPPER, PTFE

Teflon® stopper has a Nylon® extraction nut permitting easy removal of the stopper from the glass outer joint. Can be used with high vacuum.

Item #	Joint
S531018	10/18
S531420	14/20
S531922	19/22
S532440	24/40




**SLEEVE, TEFLON<sup>®</sup>, RIBBED WITH GRIPPING RING**

To seal joints without grease.

Item #	Joint
T131420	14/20
T131922	19/22
T132440	24/40
T132942	29/42
T133445	34/45


**JOINT CLIP, STANDARD TAPER JOINT**

Made of polyacetal plastic.

Item #	Joint
CS001420	14/20
CS001922	19/22
CS002440	24/40
CS002942	29/42
CS003445	34/45
CS004050	40/50
CS004550	45/50


**SPRING, STAINLESS STEEL**

Use with hooks.

Item #	Length of Coil (mm)
TH006	6.35
TH025	25.0
TH032	32.0


**GLASS CUTTER, NATURAL DIAMOND**

With rack on shank for breaking off single or double strength glass. Extra-large natural diamond for durability.

Item #
DC18001

## O-RING, VITON®

For solvent and chemical compatibility.

Item #	Dimensions (mm)			Description
	Size	I.D.	W	
R006	006	3.70	1.80	O-ring (For H14- and V13- Series)
R007	007	3.70	1.78	For 04mm High Vacuum Plug Tip or 5/5 Threaded Joint
R008	008	4.50	1.78	O-ring for #7 Internal Thread
R010	010	6.07	1.78	For 04mm High Vacuum Plug Shaft or 5/5 Threaded Joint
R011	011	7.65	1.88	O-ring, Size 011 for S181125 Stopcocks
R013	013	10.8	1.78	O-ring for 15mm Stopper of Internal Thread
R014	014	12.30	1.78	O-ring for 14/10 Threaded Joints, Microscale
R107	107	5.23	2.62	O-ring for Thermometer/Inlet Adapters
R107EP	107	5.23	2.62	EP O-ring, #7 GL Thread
R108	108	6.0	2.62	Top O-ring for 08mm High Vacuum
R110	110	9.2	2.62	O-ring for 08mm High Vacuum Valve Plug/0-12mm High Vacuum Valve Tip O-ring
R111EP	111	10.77	2.62	EP O-ring, #15 GL Thread
R112	112	12.4	2.62	012mm High Vacuum Valve Shaft O-ring
R116	116	18.7	2.62	#15 O-ring Joint
R121	121	26.6	2.62	O-ring for 25mm Stopper of Internal Thread
R212	212	21.8	3.50	O-ring for 25mm Stopper of Internal Thread
R212EP	212	21.8	3.50	EP O-ring, #25 GL Thread
R217	217	29.7	3.50	O-ring for #25 O-ring Joint
R221	221	21.8	3.50	Replacement #221 O-ring for Rodaviss Joint
R223	223	40.9	3.50	Replacement #223 O-ring for Rodaviss Joint
R225	225	4.72	3.50	O-ring for #50 Internal Thread
R226	226	50.4	3.50	O-ring for #40 Internal Thread
R229	229	59.9	3.50	O-ring for #50 Internal Thread
R331	331	56.5	5.33	O-ring for 57mm Flat O-ring Flange
R339	339	81.9	5.33	O-ring for 80mm Flat O-ring Flange




**CLAMP, HORSESHOE STYLE**

Made of aluminum with black epoxy coating. Used for flat flange glassware.

Item #	For Flange Size
CC0057	57mm
CC0080	80mm


**CLAMP, PINCH, STAINLESS STEEL, SPHERICAL**

With a screw type locking nut. Made of 304 stainless steel. Used for O-ring or spherical joints.

Item #	Spherical Joint Size/ O-ring Joint Size
CC0012	12/5 Ball Joint, or #5 O-ring Joint Stainless Steel Clamp
CC0018	18/8 Ball Joint, or #9 O-ring Joint Stainless Steel Clamp
CC2815	28/15 Ball Joint, or #15 O-ring Joint Stainless Steel Clamp
CC3525	35/20,35/25 Ball Joint, or #25 O-ring Joint Stainless Steel Clamp
CC0050	50/30 Ball Joint, or #30 O-ring Joint Stainless Steel Clamp
CC0065	65/40 Ball Joint, or #40 O-ring Joint Stainless Steel Clamp
CC0075	75/50 Ball Joint, or #50 O-ring Joint Stainless Steel Clamp


**CLAMP THERMOMETER EXTENSION**

Extension rod is 10mm in diameter. Total length: 200mm.

Item#
W140200


**SPATULAS**

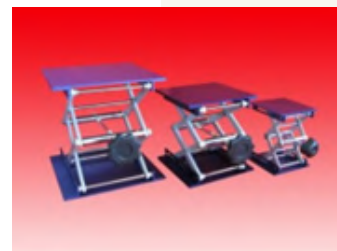
Made of 304 Stainless Steel. One end rounded. One end tapered.

Item #	Length (mm)
W160100	100
W160120	120
W160125	125
W160140	140
W160150	150
W160160	160
W160180	180
W160200	200
W160220	220
W160230	230

### ALUMINUM SUPPORT JACK

Aluminum support jacks are used to support various types of glassware and equipment used in the lab.

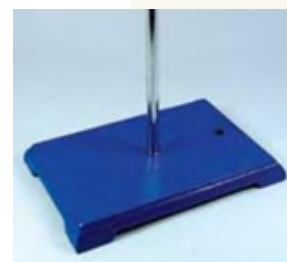
Item #	Dimensions (cm)
J111018	10*10*14
J111525	15*15*28
J112028	20*20*29
J112532	20*25*38



### SUPPORT STAND

Cast iron base and chrome plated rod. The base features two holes which are tapped to fit the included rod.

Item #	Base Size	Pole Height	Rod Thickness
J390260	200*125mm (8x5 inches)	600mm	10mm
J390270	250*160mm (10x6 inches)	600mm	10mm
J390280	315*200mm (12x8 inches)	700mm	10mm



### BOSSHEAD

Chrome plated finish, plastic headed screws. For rods up to 15mm in diameter.

Item #
W200002



### BOSSHEAD

Chrome plated finish with plastic headed screws. For rods up to 15mm in diameter.

Item #
W200002Z



### BOSSHEAD

Chrome plated finish. For rods up to 16mm in diameter.

Item #
W200002B



### BOSSHEAD

Matte black finish. For rods up to 19mm in diameter.

Item #
J111200

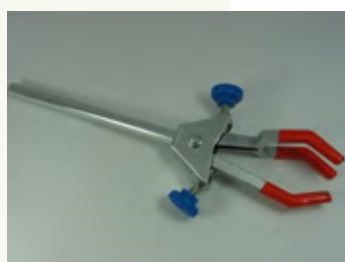




#### FOUR FINGER CLAMP (SHANK)

Die-cast alloy, Ni/Cr plated finish, with cork lined interlocking jaws accepts articles up to 80mm in diameter. (Clamp total length is approximately 250mm).

Item #	Model	Rod Length (mm)
W170004	Chromed	154



#### THREE FINGER DOUBLE ADJUST-ABLE CLAMP (LARGE)

Double adjustable, PVC coated prongs, made of chrome-plated alloy. Accepts objects from 0 to 87mm. (Clamp total length is approximately 270mm).

Item #	Rod Length (mm)
W181103	152



#### THREE FINGER DOUBLE ADJUST-ABLE CLAMP (SMALL)

Double adjustable, PVC coated prongs, made of chrome-plated Zinc-alloy. Accept objects from 0 to 60mm. (Clamp total length is approximately 222mm).

Item #	Rod Length (mm)
W192203	154



#### CHAIN CLAMP

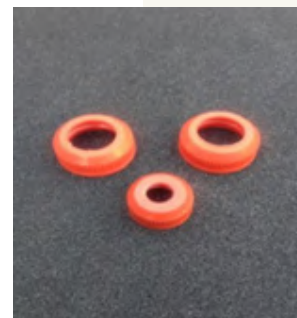
With chain and spring. For diameters from 80 to 150mm.

Item #	Rod Length (mm)
W150150	220

### CAP, COMPRESSION, WITH HOLE

Replacement caps with hole for use with thermometer/inlet adapters or microscale reaction vials.

Item #	Size (mm)	Possible Application	Material
RC005	8	Side Port Hickman Still Head	Phenolic
RC009	13	Thermometer/Inlet Adapters	Nylon 66®
RC112	20	14/10 Threaded Joints, Microscale	Nylon 66®
RC2440	24	24/40 Rodaviss® Joint	Nylon 66®



### SEPTUM, TEFLON®-LINED SILICONE RUBBER

Made of silicone rubber with PTFE face.

Item #	Size (mm)	Possible Application
R1408	8	Side port Hickman Still Head
R1413	13	Thermometer/Inlet Adapters
R1420	20	14/10 Threaded Joints



### REMOVABLE HOSE CONNECTION, FOR GL THREAD

With caps listed below. Order each part separately.

Item #	Size	Style
R201402	14	Straight
R201801	18	Straight
RC14	14	#14 Nylon® Cap with 9.5mm Hole
RC18	18	#18 Nylon® Cap with 11mm Hole



### PLURO-STOPPER

Used with Buchner and fritted glass funnels. Sold as a set of 8.

Item #	Size	Top/Bottom O.D. (mm)	Top/Bottom I.D. (mm)
P10	#1	21×11	17×7
	#2	30×20	23×12
	#3	37×22	31×16
	#4	48×30	45×22
	#5	58×38	50×30
	#6	69×45	60×36
	#7	84×65	70×52






**SEPTUM, STOPPER, SLEEVE TYPE**

Flanged type stopper with a hollow plug and sleeve extension that folds down over the neck of the vessel, tubing, etc. The diaphragm can be punctured with a syringe needle, resealing after needle is withdrawn. Made of natural rubber.

Item #	For Use With
RS111420	14/20 Outer Joint
RS111922	19/22 Outer Joint
RS112440	24/40 Outer Joint
RS112942	29/42 Outer Joint


**SEPTUM, STOPPER, SLEEVE TYPE THREADED**

Stoppers are made from natural white rubber.

Item #	Joint
RS121420	14/20
RS121922	19/22
RS122440	24/40


**SEPTUM, STOPPER, SLEEVE TYPE**

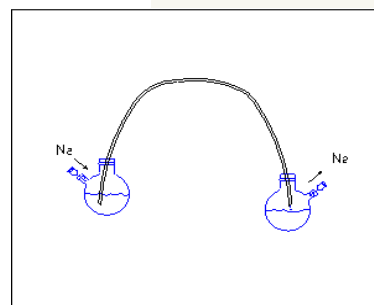
Stoppers are made from natural white rubber for use with 5mm OD NMR Tubes.

Item #	NMR TUBE O.D. (mm)
RS1305	5

### CANNULA, STAINLESS STEEL

For the transfer and handling of air sensitive materials.

Item #	Gauge	O.D. (mm)	I.D. (mm)	Needle Length (mm)
C701618	16	1.65	1.20	460
C701624	16	1.65	1.20	600
C701636	16	1.65	1.20	900
C701818	18	1.30	0.80	460
C701824	18	1.30	0.80	600
C701836	18	1.30	0.80	900
C702018	20	0.90	0.60	460
C702024	20	0.90	0.60	600
C702036	20	0.90	0.60	900
C702218	22	0.70	0.40	460
C702224	22	0.70	0.40	600
C702236	22	0.70	0.40	900



### SYRINGE NEEDLE, STAINLESS STEEL

Long needle for solvent retrieval. Female lure lock connector. Beveled non-coring tip.

All of our needles are compatible with both lure lock and lure slip syringes.

Item #	O.D. (mm)	Length (mm)
S386150	0.6	150
S386200	0.6	200
S386300	0.6	300
S389150	0.9	150
S389200	0.9	200
S389300	0.9	300
S380216	1.2	180
S380221	1.2	200
S380230	1.6	300



### SAMPLE SYRINGE

Borosilicate glass syringe with permanent graduations.  
Does not have a lure lock, but has a lure slip tip.  
Compatible with syringe needles listed above.



Item #	Specifications	Packaging
S371200	1ml	10/pack
S371202	2ML	10/pack
S371203	5ML	10/pack
S371204	10ML	5/pack
S371205	20ML	Each
S371206	30ML	Each
S371207	50ML	Each
S371208	100ML	Each

### MICROLITER SAMPLE SYRINGE

Borosilicate syringe used for precise sample delivery in volumes from 0.5ul-1ml.



Item #	Specifications	Needle O.D.
S371001	0.5ul	0.5mm
S371002	1ul	0.5mm
S371003	5ul	0.6mm
S371004	10ul	0.5mm
S371005	25ul	0.5mm
S371006	50ul	0.5mm
S371007	100ul	0.5mm
S371008	250ul	0.5mm
S371009	500ul	0.5mm
S371010	1000ul	0.5mm
S371101	1ul	0.7mm
S371102	5ul	0.7mm
S371103	10ul	0.7mm
S371104	25ul	0.7mm
S371105	50ul	0.7mm
S371106	100ul	0.7mm

\*S3710 = Gas phase with beveled tip,  
S3711 = Liquid phase with blunt tip.

### STOPCOCK, TEFLON® STRAIGHT BORE

With 1:5 Teflon® plug and a threaded pressure nut. Stopcock barrels are polished to prevent PTFE plug from scratching.

Item #	Bore (mm)	Plug Size	Stem O.D. (mm)
S101502	2	11/25	8
S101504	4	15.2/30	10
S101506	6	16/35	12
Accessories:			
S181125	Replacement 2mm Teflon® Plug Only		
S181530	Replacement 4mm Teflon® Plug Only		
S181635	Replacement 6mm Teflon® Plug Only		



### STOPCOCK REPLACEMENT PLUG, 1:5 TEFLON®, STRAIGHT BORE

This replacement kit is complete with one Teflon® plug (1:5 taper), one Teflon® washer, and one O-ring.

Item #	Plug Size	Bore (mm)	Stopcock Type
S181125	11/25	2	Handle and Nut
S181530	15.2/30	4	Handle and Nut
S181635	16/35	6	Handle and Nut



### STOPCOCK REPLACEMENT PLUG, 1:5 TEFLON®, METERING VALVE

With a threaded Teflon® needle valve for the fine control of flow through the bore of the stopcock plug. This replacement kit is complete with all of the components.

Item #	Plug Size	Bore (mm)
S191125	11/25	2
S191530	15.2/30	4




**STOPCOCK, 1:5 TEFLON® T-BORE**

Stopcock with three stems sealed 90° apart. Teflon® plug has a “T” shaped bore to connect any two or all three stems.

Item #	Plug Size	Bore (mm)	Stem O.D. (mm)
S161530	15.2/30	2	8
S161635	16/35	4	10
<b>Accessories:</b>			
S201530	Replacement 4mm Teflon® Plug Only		
S201635	Replacement 6mm Teflon® Plug Only		


**STOPCOCK REPLACEMENT PLUG, 1:5 TEFLON®, T-BORE**

This replacement kit is complete with one Teflon® plug (1:5 taper), one Teflon® washer, and one O-ring.

Item #	Plug Size	Bore (mm)
S201530	15.2/30	2
S201635	16/35	4


**STOPCOCK, 1:5 TEFLON®, DOUBLE OBLIQUE BORE**

With polished barrels.

Item #	Plug Size	Bore O.D. (mm)	Stem O.D. (mm)
S171244	12.9/44	2	10
S171444	14.4/44	4	10
<b>Accessories:</b>			
S211944	Replacement 2mm Double Oblique PTFE Plug		
S211444	Replacement 4mm Double Oblique PTFE Plug		


**STOPCOCK REPLACEMENT PLUG, 1:5 TEFLON®, DOUBLE OBLIQUE BORE**

This replacement kit is complete with one Teflon® plug (1:5 taper), one Teflon® Washer, and one O-ring.

Item #	Plug Size	Bore (mm)
S211944	12.9/44	2
S211444	14.4/44	4

### STOPCOCK, TEFLON®, 120° BORE

A (1:5 taper) Teflon® stopcock with three sidearms sealed 120° apart. Plug has a bore to allow connection of any two arms at once.

Item #	Plug Size	Bore O.D. (mm)	Stem O.D. (mm)
S411530	15.2/30	2	8
<b>Accessories:</b>			
S221530	2mm Teflon® 120° Bore Stopcock Plug		



### STOPCOCK, STRAIGHT BORE, GLASS, INTERCHANGEABLE

Plugs and barrels are ground to be interchangeable, with 1:10 taper.

Item #	Bore O.D. (mm)	Stem O.D. (mm)	Supplied
S321230	2	8	Complete
S321740	4	10	Complete
S322044	6	12	Complete
<b>Accessories:</b>			
S461230	Replacement 2mm Glass Plug Only		
S461740	Replacement 4mm Glass Plug Only		
S462044	Replacement 6mm Glass Plug Only		
S691230	Replacement S.S. Retention for 2mm Glass Stopcock		
S691740	Replacement S.S. Retention for 4mm Glass Stopcock		
S692044	Replacement S.S. Retention for 6mm Glass Stopcock		



### STOPCOCK REPLACEMENT PLUG 1:10, GLASS

To be used with constant pressure retention kit (S69- series).

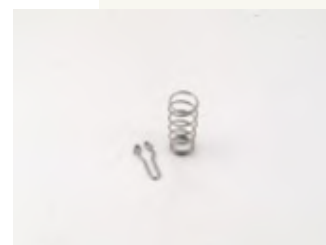
Item #	Bore (mm)	Plug Size (mm)	Stopcock Type
S461230	2	12/30	Straight Glass
S461740	4	17/40	Straight Glass
S462044	6	20/44	Straight Glass



### REPLACEMENT STAINLESS STEEL RETENTION KIT

Use with glass stopcock.

Item #	Plug Size (mm)
S691230	12/30
S691740	17/40
S691750	17.35/50
S691656	16.2/56
S692044	20/44



**STOPCOCK, GLASS, T-BORE**

With solid glass plug and a constant pressure retention spring and clip.



Item #	Plug Size	Bore O.D. (mm)	Stem O.D. (mm)
S310217	12/30	2	8
S311740	17/40	4	10
S312044	20/44	6	12
<b>Accessories:</b>			
S510217	Replacement "T"- bore Glass Plug, 2mm Hole		
S511740	4mm Glass "T"bore Stopcock Plug		
S512044	Replacement "T"- bore Glass Plug, 6mm Hole		
S691230	Replacement S.S. Retention for 2mm Glass Stopcock		
S691740	Replacement S.S. Retention for 4mm Glass Stopcock		
S692044	Replacement S.S. Retention for 6mm Glass Stopcock		

**STOPCOCK, GLASS, HIGH VACUUM, DOUBLE OBLIQUE BORE**

With solid glass plug. Barrel and plug are precision ground hand lapped with corresponding numbers on the barrel and plug. With constant pressure retention spring and clip.



Item #	Plug Size	Bore Size (mm)	Sidearm O.D. (mm)
S391656	16.2/56	4	10
<b>Accessories:</b>			
S691656	Replacement S.S. Retention Kit for 16.2/56 Glass Stopcock		

**STOPCOCK, GLASS, HOLLOW PLUG, DOUBLE OBLIQUE, HIGH VACUUM**

Precision ground with corresponding numbers on the barrel and plug. Lower vacuum chamber is evacuated via a separate 2mm hole in the plug which is not in the line of flow.



Item #	Plug Size	Bore Size (mm)	Sidearm O.D. (mm)
S351656	16.2/56	4	10

**STOPCOCK, GLASS, HOLLOW PLUG, OBLIQUE, HIGH VACUUM**

Precision ground with corresponding numbers on the barrel and plug. Lower vacuum chamber is evacuated via a separate 2mm hole in the plug which is not in the line of flow.



Item #	Plug Size	Bore Size (mm)	Sidearm O.D. (mm)
S341750	17.35/50	4	10
S342565	25/65	8	16



**STOPCOCK, GLASS, HOLLOW PLUG, OFFSET, HIGH VACUUM**

Precision ground with corresponding numbers on the barrel and plug.  
Lower vacuum chamber is evacuated via a separate 2mm hole in the plug which is not in the line of flow

Item #	Plug Size	Bore (mm)	Sidearm O.D. (mm)
S701240	12.6/40	2	8
S701754	17.35/50	4	10
S701756	17.35/50	6	12



**STOPCOCK, GLASS, HOLLOW PLUG, 90°, HIGH VACUUM**

Precision ground with corresponding numbers on the barrel and plug.  
Lower vacuum chamber is evacuated via a separate 2mm hole in the plug which is not in the line of flow.

Item #	Plug Size	Bore (mm)	Sidearm O.D. (mm)
S711240	12.6/40	2	8
S711754	17.35/50	4	10
S711756	17.35/50	6	12



**STOPCOCK, GLASS, HOLLOW PLUG, T-TYPE, HIGH VACUUM**

Precision ground with corresponding numbers on the barrel and plug.  
Lower vacuum chamber is evacuated via a separate 2mm hole in the plug which is not in the line of flow.

Item #	Plug Size	Bore Size (mm)	Stem O.D. (mm)
S721240	12.6/40	2	8
S721754	17.35/50	4	10



**VALVE, HIGH VACUUM, PTFE, O-RING, 90°**

With two 9mm O.D. sidearms sealed to the barrel at a 90° angle to one another. The non-rotating PTFE plug has three O-rings, the tip O-ring making the primary seal on the precision formed taper seat.



Item #	Description
S550004	0-4mm High Vacuum Valve, 90°, Complete
S550008	0-8mm High Vacuum Valve, 90°, Complete
S550012	0-12mm High Vacuum Valve, 90°, Complete
<b>Accessories:</b>	
S540004	0-4mm High Vacuum Plug and Control Knob Viton® O-ring at Tip
S540008	0-8mm High Vacuum Plug and Control Knob Viton® O-ring at Tip
S540012	0-12mm High Vacuum Plug and Control Knob Viton® O-ring at Tip

**VALVE, HIGH VACUUM, PTFE, O-RING, 180°**

The non-rotating PTFE shaft has three O-rings, the tip O-ring making the primary seal on the precision formed taper seat. For replacement Viton O-ring kit, See R007, R010, or R108 and R110.



Item #	Description
S560004	0-4mm High Vacuum Valve, 180°
S560008	0-8mm High Vacuum Valve, 180°
<b>Accessories:</b>	
S540004	0-4mm High Vacuum Plug and Control Knob Viton® O-ring at Tip
S540008	0-8mm High Vacuum Plug and Control Knob Viton® O-ring at Tip

**VALVE, HIGH VACUUM, PTFE, O-RING, THREE-WAY**

With two 9mm O.D. sidearms sealed to the barrel at a 90° angle to one another. The non-rotating PTFE plug has three O-rings, the tip O-ring making the primary seal on the precision formed taper seat.



Item #	Description
S580008	0-8mm High Vacuum Valve, (3way)
S580012	0-12mm High Vacuum Valve, (3way)
<b>Accessories:</b>	
S540008	0-8mm High Vacuum Plug and Control Knob Viton® O-ring at Tip
S540012	0-12mm High Vacuum Plug and Control Knob Viton® O-ring at Tip

#### VALVE, HIGH VACUUM, PTFE, O-RING, T-TYPE

With two 9mm O.D. sidearms sealed to the barrel at a 90° angle to one another. The non-rotating PTFE plug has three O-rings, the tip O-ring making the primary seal on the precision formed taper seat. For replacement Viton O-ring kit, see R110 and R112.

Item #	Description
S590012	0-12mm High Vacuum Valve, (3way)
<b>Accessories:</b>	
S540012	0-12mm High Vacuum Plug and Control Knob Viton® O-ring at Tip



#### VALVE, HIGH VACUUM, TEFLON® PROTECTED, 180°

With two 9mm O.D. sidearms sealed to the barrel at a 180° angle to one another. Viton® O-rings on PTFE shaft are protected with precision Teflon® wipers. The plug has a machined-in integral PTFE tip O-ring to make the primary seal. This design provides an excellent vacuum tight seal without exposing any material other than Teflon to chemicals.

Item #	Description
S620004	0-4mm High Vacuum Valve, 180°
S620008	0-8mm High Vacuum Valve, 180°
S620012	0-12mm High Vacuum Valve, 180°
<b>Accessories:</b>	
S600004T	0-4mm PTFE Protected High Vacuum Valve (Fully Enclosed)
S600008T	0-8mm PTFE Protected High Vacuum Valve (Fully Enclosed)
S600012T	0-12mm PTFE Protected High Vacuum Valve (Fully Enclosed)



#### VALVE, HIGH VACUUM, TEFLON® PROTECTED, LOW HOLD UP

With two 9mm O.D. sidearms bent to minimize hold up of liquids. Viton® O-rings on PTFE shaft are protected with precision Teflon® wipers. The plug has a machined-in integral PTFE tip O-ring to make the primary seal. This design provides an excellent vacuum tight seal without exposing any material other than Teflon® to chemicals.

Item #	Description
S630004	0-4mm High Vacuum Valve, (Low Hold Up)
S630008	0-8mm High Vacuum Valve, (Low Hold Up)
S630012	0-12mm High Vacuum Valve, (Low Hold Up)
<b>Accessories:</b>	
S600004T	0-4mm PTFE Protected High Vacuum Valve (Fully Enclosed)
S600008T	0-8mm PTFE Protected High Vacuum Valve (Fully Enclosed)
S600012T	0-12mm PTFE Protected High Vacuum Valve (Fully Enclosed)




**VALVE, HIGH VACUUM, TEFLON® PROTECTED, 90° METERING**

Viton® O-rings on PTFE shaft are protected with precision Teflon® wipers. The plug has a machined-in integral PTFE tip O-ring to make the primary seal. This design provides an excellent vacuum tight seal without exposing any material other than Teflon® to chemicals.

Item #	Description
S640008	0-8mm High Vacuum Valve (3way)
<b>Accessories:</b>	
S600008T	0-8mm PTFE Protected High Vacuum Valve (Fully Enclosed)


**VALVE, HIGH VACUUM, TEFLON® PROTECTED, 90° METERING**

Viton® O-rings on PTFE shaft are protected with precision Teflon® wipers. The plug has a machined-in integral PTFE tip O-ring to make the primary seal. This design provides an excellent vacuum tight seal without exposing any material other than Teflon® to chemicals. The glass portion has two sidearms sealed to the barrel at a 90° angle to one another.

Item #	Description
S670008	0-8mm High Vacuum Valve, 90° (Teflon® Covered Orings)
<b>Accessories:</b>	
S660008T	0-8mm High Vacuum Metering Plug and Control Valve (Teflon® covered Oring)


**VALVE, HIGH VACUUM, TEFLON® PROTECTED, LOW HOLD UP, METERING**

Viton® O-rings on PTFE shaft are protected with precision Teflon® wipers. The plug has a machined-in integral PTFE tip O-ring to make the primary seal. This design provides an excellent vacuum tight seal without exposing any material other than Teflon® to chemicals. With two 9mm O.D. sidearms bent to minimize hold up of liquids.

Item #	Description
S680004	0-4mm High Vacuum Valve, Low Hold Up
S680008	0-8mm High Vacuum Valve, Low Hold Up
S680012	0-12mm High Vacuum Valve, Low Hold Up
<b>Accessories:</b>	
S660004T	0-4mm High Vacuum Metering Plug and Control Valve (Teflon® Covered O-ring)
S660008T	0-8mm High Vacuum Metering Plug and Control Valve (Teflon® Covered O-ring)
S660012T	0-12mm High Vacuum Metering Plug and Control Valve (Teflon® Covered O-ring)

**PLUG, HIGH VACUUM, TEFLON® PROTECTED**

Complete with control knob. Viton® O-rings on PTFE shaft are protected with precision Teflon® wipers. The plug has a machined-in integral PTFE tip O-ring to make the primary seal. This design provides an excellent vacuum tight seal without exposing any material other than Teflon® to chemicals.

Item #	Description
S600004T	0-4mm PTFE Protected High Vacuum Valve (Fully Enclosed)
S600008T	0-8mm PTFE Protected High Vacuum Valve (Fully Enclosed)
S600012T	0-12mm PTFE Protected High Vacuum Valve (Fully Enclosed)



**PLUG, HIGH VACUUM, TEFLON® PROTECTED, METERING**

Complete with control knob. Viton® O-rings on PTFE shaft are protected with two precision Teflon® wipers. The plug has a machined-in integral PTFE tip O-ring to make the primary seal. This design provides an excellent vacuum tight seal without exposing any material other than Teflon® to chemicals.

Item #	Description
S660004T	0-4mm High Vacuum Metering Plug and Control Valve (Teflon® Halfcovered O-ring)
S660008T	0-8mm High Vacuum Metering Plug and Control Valve (Teflon® Halfcovered O-ring)
S660012T	0-12mm High Vacuum Metering Plug and Control Valve (Teflon® Halfcovered O-ring)



**High Vacuum Valve with Internal Thread**

Item #	Description
S600004N	0-4mm High Vacuum Valve with Internal Thread
S600008N	0-8mm High Vacuum Valve with Internal Thread



### SUBLIMATOR

A grease-free, two-piece sublimation apparatus consisting of an upper water cooled condenser and lower vessel to hold the material to be sublimed. The sublimate collects on the lower end of the condenser, which has a flat bottom. Complete setup is constructed using a grease-free, threaded valve. Connection of the condenser and lower vessel via an O-ring joint enables the two parts to be gently separated for maximum product recovery. Complete apparatus consists of the cold finger, condenser, lower vessel, Viton O-ring, and a stainless steel pinch clamp.



Item #	Description	Capacity (mL)	Joint Size	O-ring Size	Clamp Size
S732510	10mL Sublimation Complete	10	25	217	35
S734040	40mL Sublimation Complete	40	40	226	65
S735060	60mL Sublimation Complete	60	50	229	75
Accessories:		Application			
CC3525	#35 Stainless Steel Clamp or #25 O-ring Joint				
CC0065	#65 Stainless Steel Clamp or #25 O-ring Joint				
CC0075	#35 Ball Joint or #50 O-ring Joint				
R217	#217 Viton® Oring for #25 O-ring Joint				
R226	#226 Viton® Oring for #40 O-ring Joint				
R229	#229 Viton® Oring for #50 O-ring Joint				
S600004T	0-4mm PTFE Protected High Vacuum Valve (Fully Enclosed)				



### SUBLIMATOR, WITH 2MM GLASS STOPCOCK

Supplied with a special 25mL long-neck flask for small volume efficiency. Plastic keck clip sold separately.

Item #	Stopcock	Joint
D232440G	2mm Glass	24/40
<b>Accessories:</b>		
DF302425	Flask, Round Bottom, Long Neck, 25mL	
S461230	Replacement 2mm Glass Plug Only	
S691230	Replacement S.S. Retention for 2mm Glass Stopcock	

### SUBLIMATION APPARATUS

Two-piece grease-free sublimator with a flat bottom to enable heating on a hot plate stirrer. Condenser has a large top opening for use with dry ice/acetone or liquid nitrogen. Connection between the flask and condenser is made with a flat O-ring joint, permitting parts to be gently separated for maximum product recovery. The capacity listed is below the bottom of the cold finger. Vacuum control is provided by a 0-8mm high vacuum valve. Complete apparatus consists of the condenser, flask, Viton® O-ring and a horseshoe clamp.

Item #	Description	Capacity (mL)	O-Ring Size	Flange Size (mm)
S740100	100mL Sublimator Complete	100	331	57
S740150	150mL Sublimator Complete	150	339	80
Accessories:				
R331	#331 Viton® O-ring			
CC0057	57mm Horseshoe Clamp			
S600008T	08mm PTFE Protected High Vacuum Valve (Fully Enclosed)			
Accessories:				
R339	#339 Viton® O-ring			
CC0080	80mm Flange Horseshoe Clamp			
S600008T	08mm PTFE Protected High Vacuum Valve (Fully Enclosed)			






**ADAPTER, GAS INLET/OUTLET**

For microscale applications.

Item #	Joint	Hose Connection O.D. (mm)
A301410	14/10	8


**ADAPTER, VACUUM, WITH 1:5 TEFLON® STOPCOCK**

For microscale applications.

Item #	Joint	Stopcock Bore (mm)	Hose Connection O.D. (mm)
A381410	14/10	2	8


**ADAPTER, INLET OR THERMOMETER**

With a compression cap and Viton® O-ring to form a vacuum tight seal. To use it as syringe port, simply replace the O-ring with Teflon®-lined septum. Cap accommodates 5.0-7.5mm O.D. thermometer. Supplied with one Nylon® cap (RC009) and one Viton® O-ring (R107).

Item #	Joint
A771410	14/10


**ADAPTER, THERMOMETER, WITH HOSE CONNECTION**

With a compression cap and Viton® O-ring to form a vacuum tight seal. To use it as syringe port, simply replace the O-ring with Teflon®-lined septum. Cap accommodates 5.0-7.5mm O.D. thermometer. Supplied with one Nylon® cap (RC009) and one Viton® O-ring (R107).

Item #	Joint
A781410	14/10

**ADAPTER, DISTILLATION, THREADED**

Supplied with one holed compression cap and one Viton® O-ring.  
For replacement cap, see RC112; for Viton® O-ring, see R014.

Item #	Joint
A351410	14/10



**ADAPTER, CLAISEN, THREADED**

Supplied with two holed compression caps, two Viton® O-rings and two Teflon®-lined silicone rubber septa. For replacement caps, see RC112; for Viton® O-rings, see R014; for septa, see R1420.

Item #	Joint
A371410	14/10



**ADAPTER, VACUUM TAKEOFF, THREADED**

Supplied with one holed compression cap and one Viton® O-ring.  
For replacement cap, see RC112; for Viton® O-ring, see R014.

Item #	Joint
A621410	14/10



**CONDENSER, REFLUX, JACKETED, THREADED**

I.D. of inner tube is designed large enough to accept a thermometer.  
Supplied with one holed compression cap and one Viton® O-ring. For replacement cap, see RC112, for Viton® O-ring, see R014.

Item #	Joint	Jacket Length (mm)	Hose Connection O.D. (mm)
C201080	14/10	80	8




**CONDENSER, AIR REFLUX, THREADED**

Supplied with one holed compression cap, and one Viton® O-ring. For replacement cap, see RC112; for Viton® O-ring, see R014.

Item #	Joint	Effective Length (mm)
C221410	14/10	100


**COLUMN, DISTILLING, VIGREUX**

Supplied with one holed compression cap and one Viton® O-ring. For replacement cap, see RC112; for Viton® O-ring, see R014.

Item #	Joint	Overall Length (mm)	Length Indented Section (mm)
C221410B	14/10	122	75


**COLUMN, AIR REFLUX, 14/20 JOINT**

For cooling with air.

Item #	Joint	Overall Length (mm)	Length Between Joints (mm)
C221420	14/20	143	96


**CONDENSER, COIL REFLUX**

For low boiling solvents. Supplied with one holed compression cap and one Viton® O-ring. For replacement cap, see RC112; for Viton® O-ring, see R014; for septa, see R1420.

Item #	Joint
C321410	14/10

### TUBE, DRYING, 90°BENT

To hold desiccant.

Item #	Joint
A851410	14/10



### HICKMAN STILL HEAD

Designed for microscale fractional distillation. Supplied with one compression cap, one Viton® O-ring and one Teflon® - faced silicone rubber septum. For replacement cap, see RC112; for Viton® O-ring, see R014, for septa, See R1420.

Item #	Joint
H101410	14/10



### HICKMAN STILL HEAD, WITH SIDE PORT

Side port with cap and 8mm Teflon® -lined septum for syringe injection or retrieval. Designed for microscale fractional distillation. Supplied with one compression cap, one Viton® O-ring and one Teflon® -faced silicone rubber septum. For replacement caps, see RC005 and RC112; for Viton® O-ring, see R014 and R006; for septa, see R1408 and R1420. The bottom tube of this product is approximately 1.6mm thick.

Item #	Joint
H121410	14/10



### DISTILLATION HEAD, HICKMAN-HICKMAN-HINKLE, WITH SIDE PORT

This head has a threaded side port with septum and cap for easier syringe access to well contents. Supplied with one compression cap, one Viton® O-ring and one Teflon® -faced silicone rubber septum. For replacement caps, see RC005 and RC112; for Viton® O-ring, see R014 and R006; for septa, see R1408 and R1420. The bottom tube of this product is approximately 3.7mm thick.

Item #	Joint
H141410	14/10




**TUBE, CRAIG RECRYSTALLIZATION**

Complete with a glass outer tube and an inner plug

Item #	Capacity Below Grind
T140002	2mL, Complete


**VIAL, CONICAL REACTION, HEAVY WALL, GRADUATED**

Supplied with one holed compression cap, one Viton® O-ring and one Teflon®-faced silicone rubber septum. For replacement cap, see RC112, For Viton® O-ring, see R014; for septa, see R1420.

Item #	Joint	Capacity (mL)
V130501	5/5	0.1
V130701	7/10	0.1
V130711	7/10	1
V131003	14/10	3
V131005	14/10	5
V131008	14/10	8

5/5 joint uses RC005 cap, R1408 septa and R006 O-ring

7/10 joint uses RC009 cap, R1413 septa and R107 O-ring

14/10 joint uses RC112 cap, R1420 septa, and R014 O-ring


**CONICAL REACTION VIAL, 14/20, GRADUATED**

Heavy wall vials have an internal conical bottom and a flat bottom.

Item #	Joint	Capacity mL)
V141003	14/20	3
V141005	14/20	5
V141008	14/20	8


**FUNNEL, FILTER**

With 14/20 joints and a 20mm O.D. fritted disc.

Item #	Joint	Disc O.D. (mm)	Disc Porosity
F381420M	14/20	20	M

### FLASK, ROUND BOTTOM, THREADED

Supplied with one holed compression caps, one Viton® O-rings and one Teflon® - faced silicone rubber septum. For replacement cap, see RC112; for Viton® O-ring see R014; for septa, see R1420.

Item #	Joint	Capacity (mL)
F301005	14/10	5
F301010	14/10	10
F301025	14/10	25



### FLASK, PEAR SHAPE, THREADED

Supplied with one compression cap, one Viton® O-ring and one Teflon® -faced silicone rubber septum. For replacement cap, see RC112; for Viton® O-ring, see R014; for septa, see R1420.

Item #	Joint	Capacity (mL)
F321005	14/10	5
F321010	14/10	10
F321025	14/10	25



### FLASK, ROUND BOTTOM, 3-NECK

Microscale, round bottom flask with three 14/10 outer ground joints externally threaded. For replacement caps, see RC112; for Viton® O-rings, see R014; for septa, see R1420.

Item #	Joint	Capacity (mL)
F591025	14/10	25
F591050	14/10	50



### FILER FUNNEL, HIRSCH

With 10mm O.D. fritted disc of coarse porosity for all microscale application with 14/10 joints. The capacity above disc is approximately 7mL. The O.D. of the plain stem is 7mm.

Item #	Porosity
F650010C	C



### FUNNEL, MICRO

For reagent addition.

Item #	Description
F740027	27mm O.D. on Top




**STILL, SOLVENT REFLUX, MICROSCALE**

Capacity of collection bulb is 15mL and has a side syringe port with cap and septum for removal of solvent. With 2mm Teflon® stopcock and 14/20 joints.

Item #	Description
S431015	Complete, w/o Two Neck Flask
F411125	Two Neck Flask, 14/20, 25ml
RC005	8mm Side Port Cap with Hole


**FLASK, ERLLENMEYER, THREADED**

Supplied with one compression cap, one Viton® O-ring and one Teflon® faced silicone rubber septum. For replacement cap, see RC112; for Viton® O-ring, see R014; for septa, see R1420.

Item #	Joint	Capacity (mL)
F501005	14/10	5
F501010	14/10	10
F501025	14/10	25


**FLASK, FILTERING, MICROSCALE**

Top is tooled for a #2 neoprene filter adapter or #3 rubber stopper.

Item #	Capacity (mL)
F150025	25
F150050	50


**HEAT TRANSFER BLOCK FOR MINI VIALS**

Aluminum heat transfer block, used in place of a glass sand in microscale experiments. It has holes to hold 3.0 and 5.0mL heavy wall reaction vials and four Craig crystallization tubes, one hole on the top for a standard thermometer.

Item #
H200001

Small hole I.D. is approximately: 11mm

Large hole I.D. is approximately: 20mm


**HEATING TRANSFER BLOCK FOR ROUND BOTTOM FLASK**

Aluminum heat transfer block, used in place of a glass sand in microscale experiments. It will hold 5, 10, and 25mL round bottom flasks, one hole on the top for a standard thermometer.

Item #
H200003

Small hole I.D. is approximately: 24mm

Medium hole I.D. is approximately: 26mm

Large hole I.D. is approximately: 37mm



### SPINVANE FOR VIALS

Magnet is encased in PTFE and is used with conical shaped mini-vials.

Item #	Vial Size (mL)
S470001	3.0 and 5.0



### STIR BAR, CYLINDRICAL

Cylindrical Magnetic Stir Bar (PTFE), with pivot ring

Item #	Specifications	Packaging
SB0515	5*15mm	5/pack
SB0620	6*20mm	5/pack
SB0628	6*28mm	5/pack
SB0835	8*35mm	2/pack
SB0740	7*40mm	2/pack
SB0845	8*45mm	2/pack
SB1050	10*50mm	Each
SB1255	12*55mm	Each
SB1485	14*85mm	Each

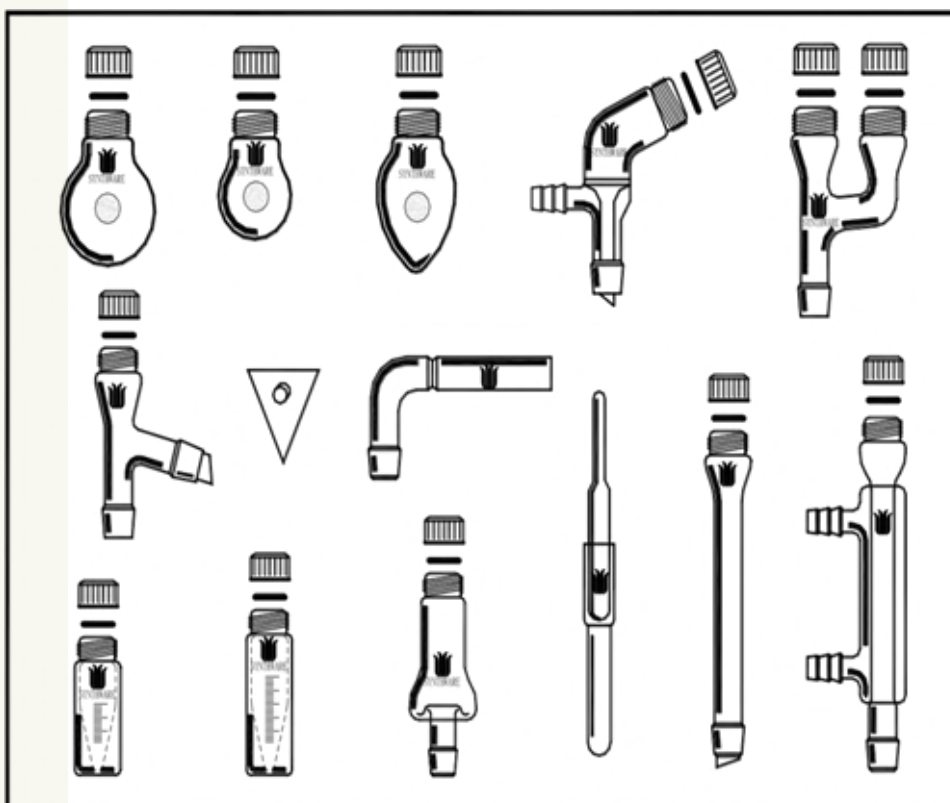


\*Can't be used in round bottom flasks. These are meant for flat bottom flasks only.

**KIT, MICROSCALE, THREADED, 14 PIECES**

This kit contains one each of the following components.

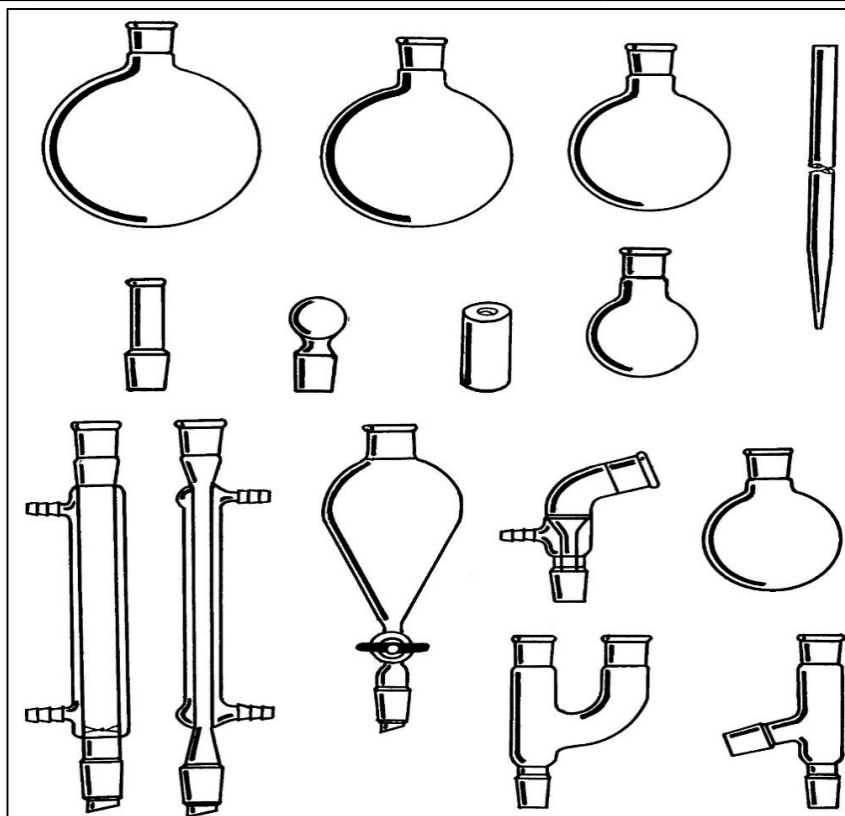
Item #	Description	Quantity
K151410	Microscale Kit	1
A371410	Claisen Adapter	1
A351410	Distillation Adapter	1
A621410	Vacuum Takeoff Adapter	1
C221410	Air Reflux Condenser	1
C201080	Jacket Condenser	1
A851410	Drying Tube	1
H101410	Hickman Still Head	1
T140002	Craig Recrystallization Tube, 2mL	1
V131003	Heavy Wall Conical Vial, 3mL	1
V131005	Heavy Wall Conical Vial, 5mL	1
F301010	Round Bottom Flask, 10mL	1
F301025	Round Bottom Flask, 25mL	1
F321010	Pear Shape Flask, 10mL	1
S470001	Spinvane, Teflon®	1
<b>Accessories:</b>		
K130902	Clear Plastic Storage Case (Sold Separately)	1



**KIT, ORGANIC CHEMISTRY, 14/20**

For use in college organic laboratory teaching courses. Case sold separately.

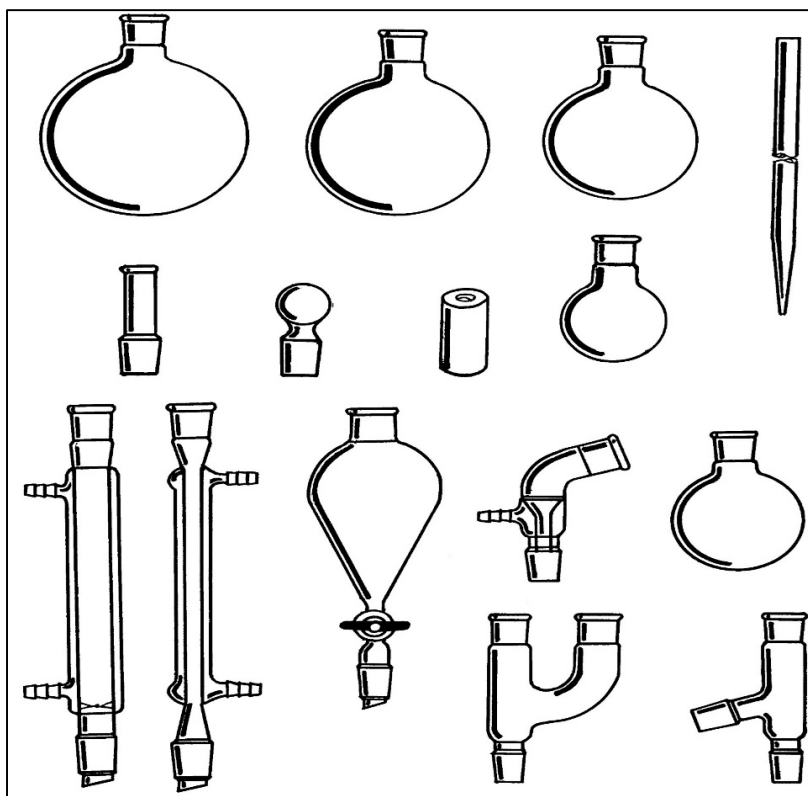
Item #	Description	Quantity
K161420	Organic Chemistry Kit, Complete	1
A371420	Claisen Adapter	1
A351420	Distillation Adapter, 75° Angle	1
A621420	Vacuum Takeoff Adapter	1
A451420	Inlet/Thermometer Adapter	1
C150190	West Condenser, 190mm Jacket Length	1
C171200	Distillation Column, 200mm Jacket Length	1
F301425	Round Bottom Flask, 25mL	1
F301450	Round Bottom Flask, 50mL	1
F301100	Round Bottom Flask, 100mL	1
F301250	Round Bottom Flask, 250mL	1
F301500	Round Bottom Flask, 500mL	1
F451125	Separatory Funnel, 125mL	1
S401420	Glass Pennyhead Stopper	1
T151922	Bleed Tube	1
<b>Accessories:</b>		
K130903	Black Storage Case with Foam Inserts (Sold Separately)	1



**KIT, ORGANIC CHEMISTRY, 19/22**

For use in college organic laboratory teaching courses. Case sold separately.

Item #	Description	Quantity
K161922	Organic Chemistry Kit, Complete	1
A371922	Claisen Adapter	1
A351922	Distillation Adapter, 75° Angle	1
A621922	Vacuum Takeoff Adapter	1
A451922	Inlet/Thermometer Adapter	1
C150190	West Condenser, 190mm Jacket Length	1
C179200	Distillation Column, 200mm Jacket Length	1
F301925	Round Bottom Flask, 25mL	1
F301950	Round Bottom Flask, 50mL	1
F309100	Round Bottom Flask, 100mL	1
F309250	Round Bottom Flask, 250mL	1
F309500	Round Bottom Flask, 500mL	1
F459125	Separatory Funnel, 125mL	1
S401922	Glass Pennyhead Stopper	1
T151922	Bleed Tube	1
<b>Accessories:</b>		
K130903	Black Storage Case with Foam Inserts (Sold Separately)	1

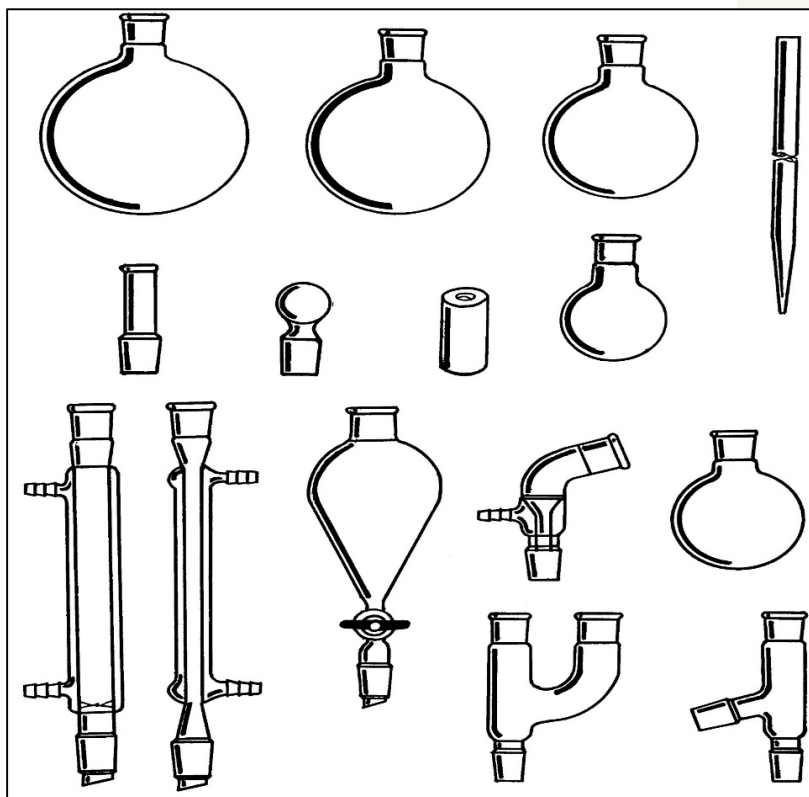


**KIT, ORGANIC CHEMISTRY, 24/40**

For use in college organic laboratory teaching courses.

Item #	Description	Quantity
K162440	Organic Chemistry Kit, Complete	1
A372440	Claisen Adapter	1
A352440	Distillation Adapter, 75° Angle	1
A622440	Vacuum Take-off Adapter	1
A452440	Inlet/Thermometer Adapter	1
C151190	West Condenser, 190mm Jacket Length	1
C174200	Distillation Column, 200mm Jacket Length	1
F302425	Round Bottom Flask, 25mL	1
F302450	Round Bottom Flask, 50mL	1
F304100	Round Bottom Flask, 100mL	1
F304250	Round Bottom Flask, 250mL	1
F304500	Round Bottom Flask, 500mL	1
F454125	Separatory Funnel, 125mL	1
S402440	Glass Pennyhead Stopper	1
T151922	Bleed Tube	1

\*\*\*NO CASE AVAILABLE FOR THIS KIT.\*\*\*




**5MM NMR TUBES, 100MHZ, CAPS, ECONOMY GRADE, 7"**

Manufactured from Borosilicate 33 expansion tubing from Germany. Diameter: 5mm.

Item #	Spec
XWE-5MM-7	5/Box
XWE-5MM-7-50	50/Box


**NMR TUBE WASHER**

With 24/40 inner joint and 10mm hose connection. For 5mm/7" length NMR tubes only. The NMR tube is inserted into the tube cleaner with its plastic cap placed on the closed end to provide support and a vacuum seal. The washing solvent is sequentially added through the side tube while a vacuum is applied through the hose connection.

Item #	Joint
T100024	24/40


**DESICCATOR, NON-VACUUM**

Glass desiccator, clear. Includes lid and ceramic plate.

Item #	Specifications	Approx. Volume	Effective Height
B135115	150mm	1500mL	110mm
B135118	180mm	3000mL	145mm
B135121	210mm	4500mL	170mm
B135124	240mm	7000mL	195mm
B135130	300mm	13000mL	245mm
B135140	400mm	25000mL	255mm


**DESICCATOR, VACUUM**

Glass vacuum desiccator with port and stopcock on lid. Includes lid and ceramic plate. Comes with A682440G vacuum adapter.

Item #	Specifications	Approx. Volume	Effective Height
B135415	150mm	1500mL	110mm
B135418	180mm	3000mL	145mm
B135421	210mm	4500mL	170mm
B135424	240mm	7000mL	195mm
B135430	300mm	13000mL	245mm

### HEAVY WALL BEAKER, LOW FORM, DUAL GRADUATION

Heavy wall construction with Borosilicate 33 expansion glass.

Item #	Capacity (mL)	Packaging
B200050	50	Each
B200100	100	Each
B200250	250	Each
B200500	500	Each
B231000	1000	Each

### HEAVY WALL BEAKER, LOW FORM, DUAL GRADUATION

Item #	Capacity (mL)	Packaging
B220050	50	10/pack
B220100	100	10/pack
B220250	250	10/pack
B220500	500	10/pack



### VOLUMETRIC FLASK, HEAVY WALL, WITH GLASS STOPPER, CLASS A

Heavy wall volumetric flasks with a glass stopper. To contain, not to deliver.

Item #	Specifications
F811305N	5mL, Class A, #13 Glass Stopper
F811310N	10mL, Class A, #13 Glass Stopper
F811320N	20mL, Class A, #13 Glass Stopper
F811325N	25mL, Class A, #13 Glass Stopper
F811350N	50mL, Class A, #13 Glass Stopper
F816100N	100mL, Class A, #16 Glass Stopper
F819200N	200mL, Class A, #19 Glass Stopper
F819250N	250mL, Class A, #19 Glass Stopper
F819500N	500mL, Class A, #19 Glass Stopper
F81221LN	1000mL, Class A, #22 Glass Stopper



### VOLUMETRIC FLASK, HEAVY WALL, WITH TEFLON STOPPER, CLASS A

Heavy wall volumetric flasks with a PTFE stopper. To contain, not to deliver.

Item #	Specifications
F811305SN	5mL, Class A, #13 Teflon Stopper
F811310SN	10mL, Class A, #13 Teflon Stopper
F811320SN	20mL, Class A, #13 Teflon Stopper
F811325SN	25mL, Class A, #13 Teflon Stopper
F811350SN	50mL, Class A, #13 Teflon Stopper
F816100SN	100mL, Class A, #16 Teflon Stopper
F819200SN	200mL, Class A, #19 Teflon Stopper
F819250SN	250mL, Class A, #19 Teflon Stopper
F819500SN	500mL, Class A, #19 Teflon Stopper
F81221LSN	1000mL, Class A, #22 Teflon Stopper







### GL45 WIDE MOUTH MEDIA STORAGE BOTTLE WITH COLOR CAPS

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

Part Number	Volume (mL)	Cap	Thread
B140100	100	GL45-L (Green)	GL45
B140250	250	GL45-H (Yellow)	GL45
B140500	500	GL45-F (Pink)	GL45
B141000	1000	GL45-C (Red)	GL45
<b>Caps</b>			
GL45-L	Cap for 100mL Media Storage Bottle, Green, Supplied with PP Drip-free Pouring Ring		
GL45-H	Cap for 250mL Media Storage Bottle, Yellow, Supplied with PP Drip-free Pouring Ring		
GL45-F	Cap for 500mL Media Storage Bottle, Pink, Supplied with PP Drip-free Pouring Ring		
GL45-C	Cap for 1000mL Media Storage Bottle, Red , Supplied with PP Drip-free Pouring Ring		

**Warning: Caps and pour rings must be removed from bottles before autoclaving!**



### DISH, CRYSTALLIZING, WITH SPOUTS

Top of each dish is reinforced and fire polished to reduce chipping

Item#	Approx. Diameter x Height (mm)	Approximate Capacity (mL)
P290170	80 x 40	150
P290700	100 x 50	250
P291200	150 x 75	900
P292600	200 x 115	2000



Item. NO	Page NO
<b>A</b>	
A10.....	15
A11.....	14
A12.....	9
A13.....	13
A15.....	15
A16.....	7
A17.....	16
A19.....	8
A20.....	1
A23.....	17
A25.....	1
A26.....	16
A27.....	16
A28.....	17
A29.....	3
A30.....	4, 129
A31.....	7
A32.....	4
A33.....	14
A34.....	4
A35.....	11, 130
A36.....	14
A37.....	14, 130
A38.....	5, 129
A39.....	10
A40.....	15
A41.....	10
A43.....	9
A45.....	2
A46.....	18
A49.....	16
A50.....	10
A52.....	2
A53.....	2
A54.....	13
A55.....	46
A56.....	100
A58.....	46
A59.....	46
A60.....	17
A61.....	6
A62.....	13, 130
A65.....	12
A66.....	1
A68.....	6
A69.....	6

Item. NO	Page NO
A70.....	5
A71.....	5
A72.....	8
A73.....	8
A74.....	9
A75.....	5
A76.....	8
A77.....	129
A78.....	129
A79.....	1
A83.....	4
A84.....	15
A85.....	11, 131
A86.....	11
A87.....	11
A88.....	7
A89.....	12
A90.....	13
A92.....	3
A95.....	3
A96.....	10
A97.....	12
<b>B</b>	
B13.....	141
B14.....	143
B20.....	142
B22.....	141
B24.....	19
B25.....	18
B26.....	19
B30.....	20
B31.....	20

<b>C</b>	
C10.....	21
C11.....	22
C12.....	24
C13.....	31
C14.....	25
C15.....	28
C16.....	21
C17.....	22
C18.....	31, 32, 33
C19.....	36
C20.....	28, 130

Item. NO	Page NO
C21.....	23
C22.....	131
C23.....	23
C24.....	50
C25.....	27
C26.....	24
C27.....	23
C29.....	51
C30.....	51
C31.....	25
C32.....	131
C34.....	29
C35.....	26
C36.....	38, 39
C37.....	34
C38.....	37
C39.....	35
C41.....	40
C43.....	40
C50.....	28
C52.....	25
C53.....	26
C55.....	27
C56.....	24
C57.....	22
C62.....	27
C70.....	116
C90.....	29
C91.....	29
CC.....	111
CS00.....	109

<b>D</b>	
D10.....	44
D11.....	48
D12.....	42
D13.....	48
D14.....	47
D15.....	41
D16.....	45
D17.....	47
D19.....	45
D20.....	46
D21.....	47
D22.....	48
D23.....	127

Item. NO	Page NO
D24.....	21
D25.....	42
D26.....	43
D27.....	41
D28.....	41
D30.....	44
D35.....	45
D37.....	42
D38.....	42
D44.....	49
D45.....	49
D50.....	47
D53.....	43
D54.....	43
D68.....	44
DC.....	109
DF.....	48
<b>E</b>	
E10.....	50
E11.....	50
<b>F</b>	
F10.....	52
F11.....	30
F12.....	54
F14.....	55
F15.....	135
F16.....	68
F18.....	71
F19.....	71
F20.....	60
F21.....	61
F22.....	60
F23.....	38
F24.....	30
F26.....	74
F27.....	74
F28.....	74
F29.....	71
F30.....	53, 134
F31.....	56
F32.....	55, 134
F33.....	54
F34.....	56

Item. NO	Page NO
F35.....	75
F36.....	72
F37.....	81
F38.....	133
F39.....	71
F41.....	57
F42.....	61
F43.....	58
F44.....	59
F45.....	82
F46.....	65
F47.....	83, 84
F48.....	66
F49.....	66
F50.....	135
F52.....	54
F53.....	68
F54.....	67
F55.....	75
F56.....	67
F58.....	63
F59.....	134
F60.....	73
F61.....	86
F62.....	86, 87
F63.....	60
F64.....	87
F65.....	134
F66.....	62
F67.....	87
F68.....	85
F70.....	75
F71.....	61
F72.....	62
F74.....	134
F75.....	70
F76.....	65
F77.....	72
F78.....	85
F79.....	55
F80.....	74
F81.....	142
F89.....	69
F90.....	64
F93.....	70
F96.....	86

Item. NO	Page NO
F97.....	81
F98.....	51
<b>G</b>	
GL.....	78
<b>H</b>	
H10.....	132
H12.....	132
H14.....	132
H20.....	135
<b>J</b>	
J11.....	112
J39.....	112
<b>K</b>	
K15.....	137
K16.....	138, 139, 140
<b>M</b>	
M10.....	88
M11.....	88
M13.....	98
M14.....	89
M15.....	97
M16.....	98
M17.....	88
M18.....	90
M19.....	93
M20.....	95
M21.....	94
M23.....	91
M24.....	92
M25.....	91
M26.....	93
M27.....	95
M28.....	93
M29.....	92
M30.....	92
M31.....	97
M33.....	97
M34.....	96
M35.....	96
M36.....	96
M40.....	90

Item. NO	Page NO
M41.....	89
M42.....	90
M43.....	90
M44.....	91
M45.....	91
M47.....	89
M49.....	94
M50.....	93
M52.....	95
M53.....	94
M54.....	94

### P

P10.....	114
P12.....	76
P13.....	76
P14.....	77
P15.....	77
P16.....	79
P17.....	80
P29.....	143

### R

R.....	78, 110
RC.....	114
R14.....	114
R20.....	114
R045.....	2
RS11.....	115
RS12.....	115
RS13.....	115

### S

S10.....	118
S11.....	108
S12.....	108
S13.....	104
S14.....	106
S16.....	119
S17.....	119
S18.....	118
S19.....	118
S20.....	119
S21.....	119
S23.....	105
S24.....	105

Item. NO	Page NO
S25.....	106
S26.....	105
S28.....	107
S29.....	107
S31.....	121
S32.....	120
S34.....	121
S35.....	121
S37.....	117
S38.....	116
S39.....	107, 121
S40.....	107
S41.....	120
S43.....	135
S45.....	108
S46.....	120
S47.....	136
S48.....	98
S49.....	104
S52.....	104
S53.....	108
S55.....	123
S56.....	123
S58.....	123
S59.....	124
S60.....	126
S62.....	124
S63.....	124
S64.....	125
S66.....	125
S67.....	125
S68.....	125
S69.....	120
S70.....	122
S71.....	122
S72.....	122
S73.....	127
S74.....	128
SB.....	136
SW.....	143

### T

T10.....	141
T13.....	109
T14.....	133
T16.....	12
T21.....	32

Item. NO	Page NO
T23.....	45
TH.....	109

### V

V10.....	103
V11.....	101
V12.....	103
V13.....	133
V14.....	133
V15.....	78
V16.....	103
V17.....	99
V19.....	78
V20.....	102
V21.....	102
V22.....	18
V32.....	99
V38.....	100
V39.....	100

### W

W14.....	111
W15.....	113
W16.....	111
W17.....	113
W18.....	113
W19.....	113
W20.....	112

### X

XWE.....	141
----------	-----

### #

871.....	144
----------	-----

## A

ADAPTER, BUSHING.....	1	ADAPTER, TRANSFER VALVE.....	10
ADAPTER, ENLARGING.....	1	ADAPTER, DISTILLATION CONNECTING.....	11
ADAPTER, REDUCING.....	1	ADAPTER, DRYING TUBE, "U" SHAPED.....	11
ADAPTER, WITH BALL SOCKET.....	1	ADAPTER, DRYING TUBE, 75°.....	11
ADAPTER, INLET.....	2	ADAPTER, DRYING TUBE, STRAIGHT.....	11
ADAPTER, INLET OR THERMOMETER.....	2	ADAPTER, DISTILLING, 75°.....	12
ADAPTER, INLET, WITH HOSE		ADAPTER, DISTILLING, BENT, 105°.....	12
CONNECTION.....	2	ADAPTER, INLET, LONG STEM.....	12
ADAPTER, VACUUM, 90° OUTER JOINT.....	3	ADAPTER, DISTILLATION.....	13
ADAPTER, VACUUM OR ARGON.....	3	ADAPTER, DISTILLATION CONNECTING,	
ADAPTER, VACUUM/GAS, BALL JOINT.....	3	VIGREUX.....	13
ADAPTER, VACUUM/INERT GAS, 90°.....	3	ADAPTER, DISTILLATION HEAD.....	13
ADAPTER, INLET.....	4	ADAPTER, VACUUM TAKE-OFF, SHORT STEM	
ADAPTER, TWIN CONNECTING HOSE.....	4	.....	13
ADAPTER, VACUUM OR ARGON (NITROGEN)		ADAPTER, CLAISEN.....	14
.....	4	ADAPTER, CONNECTING.....	14
ADAPTER, VACUUM, OUTER JOINT.....	4	ADAPTER, DISTILLATION.....	14
ADAPTER, OUTER JOINT, PTFE STOPCOCK ...		ADAPTER, BENT, 75°.....	15
.....	5	ADAPTER, CONNECTING.....	15
ADAPTER, VACUUM, GLASS STOPCOCK, 90°		ADAPTER, VACUUM FILTRATION.....	15
.....	5	ADAPTER, WITH MINERAL OIL BUBBLER....	15
ADAPTER, VACUUM, PTFE STOPCOCK.....	5	ADAPTER, ANTI-CLIMB.....	16
ADAPTER, VACUUM, WITH 1:5 TEFLON®		ADAPTER, DISTILLING TRAP.....	16
STOPCOCK.....	5	ADAPTER, KJELDAHL TRAP.....	16
ADAPTER, FLUSHING.....	6	ADAPTER, ANTI-SPLASH.....	17
ADAPTER, OUTER JOINT, GLASS STOPCOCK		ADAPTER, ANTI-SPLASH WITH FRITTED DISC	
.....	6	.....	17
ADAPTER, VACUUM, GLASS STOPCOCK.....	6	ADAPTER, ANTI-SPLASH, MODIFIED.....	17
ADAPTER, THERMOMETER.....	7	ADAPTER, ANTI-SPLASH, WITH FRITTED	
ADAPTER, VACUUM/INERT GAS.....	7	DISC (MODIFIED).....	18
ADAPTER, CONNECTING.....	8	ADAPTER, #15 O-RING JOINT TO INNER JOI	
ADAPTER, FLOW CONTROL, METERING		NT.....	98
STOPCOCK.....	8	ADAPTER, #15 O-RING JOINT TO SERRATED	
ADAPTER, FLOW CONTROL, METERING		HOSE CONNECTION.....	98
STOPCOCK, 90°.....	8	ADAPTER, CONNECTING, INLET.....	100
ADAPTER, FLUSHING.....	8	ALUMINUM SUPPORT JACK.....	112
ADAPTER, INLET WITH HOSE CONNECTION ..		ADAPTER, GAS INLET/OUTLET.....	129
.....	9	ADAPTER, INLET OR THERMOMETER.....	129
ADAPTER, VACUUM.....	9	ADAPTER, THERMOMETER, WITH HOSE	
ADAPTER, VACUUM TRANSFER.....	9	CONNECTION.....	129
ADAPTER, DISTILLATION, BENT, 105°.....	10	ADAPTER, VACUUM, WITH 1:5 TEFLON®	
ADAPTER, DISTILLING, 105°.....	10	STOPCOCK.....	129
		ADAPTER, CLAISEN, THREADED.....	130
		ADAPTER, DISTILLATION, THREADED.....	130

ADAPTER, VACUUM TAKEOFF, THREADED .....	130
---	-----

## B

BUBBLER, MINERAL OIL.....	18
BUBBLER.....	19
BOTTLE, GAS WASHING, FRITTED.....	20
BOSSHEAD.....	112

## C

COLUMN, DISTILLING, VIGREUX.....	21
CONDENSER, DISTILLATION, VACUUM, JACKETED.....	21
CONDENSER, COLD FINGER, WITH DRIP TIP .....	22
CONDENSER, DISTILLATION.....	22
CONDENSER, DISTILLATION, REMOVABLE HOSE CONNECTIONS.....	22
CONDENSER, FRIEDRICHS.....	23
CONDENSER, FRIEDRICHS, REMOVABLE HOSE CONNECTIONS.....	23
CONDENSER, FRIEDRICHS, WITH 24/40 JOINT.....	23
CONDENSER, COILED.....	24
CONDENSER, REFLUX.....	24
CONDENSER, REFLUX, REMOVABLE HOSE CONNECTIONS.....	24, 25
CONDENSER, GRAHAM.....	25
CONDENSER, REFLUX, LARGE COOLING CAPACITY.....	25
CONDENSER, REFLUX.....	25
CONDENSER, REFLUX, LARGE COOLING CAPACITY, REMOVABLE HOSE CONNECTIONS.....	26
CONDENSER WEST, REMOVABLE HOSE CONNECTIONS.....	27
CONDENSER, ALLIHN.....	27
CONDENSER, ALLIHN, REMOVABLE HOSE CONNECTIONS.....	27
CONDENSER WEST.....	28
CONDENSER, LIEBIG.....	28
CONDENSER, LIEBIG, REMOVABLE HOSE CONNECTIONS.....	28

CONDENSER, DEWAR, MICRO.....	29
CONDENSER, FOR ROTARY EVAPORATOR, UPRIGHT STYLE.....	29
CONDENSER, FOR ROTARY EVAPORATORS .....	29
CHROMATOGRAPHY FLOW CONTROL ADAPTER.....	31
CHROMATOGRAPHY RESERVOIR.....	31
CHROMATOGRAPHY COLUMN, HEAVY WALL DESIGN.....	32, 33
COLUMN, CHROMATOGRAPHY WITH RESERVOIR.....	34
COLUMN, CHROMATOGRAPHY WITH RESERVOIR, FRITTED DISC.....	35
CHROMATOGRAPHY COLUMN, FRITTED DISC, SPHERICAL JOINTS.....	36
CHROMATOGRAPHY COLUMN, SPHERICAL JOINTS.....	36
COLUMN, CHROMATOGRAPHY WITH RESERVOIR.....	37
COLUMN, CHROMATOGRAPHY, WITH RESERVOIR, FRITTED DISC.....	37
CHROMATOGRAPHY COLUMN, MODIFIED .....	38
COLUMN, CHROMATOGRAPHY, TEFLON® STOPCOCK.....	38
COLUMN, CHROMATOGRAPHY, TEFLON®, STOPCOCK, FRITTED DISC.....	39
CONDENSER, FOR SOXHLET EXTRACTORS .....	50
CONCENTRATOR TUBE, GRADUATED.....	51
CRUCIBLE, GOOCH, LOW FORM.....	72
CLAMP THERMOMETER EXTENSION.....	111
CLAMP, HORSESHOE STYLE.....	111
CLAMP, PINCH, STAINLESS STEEL, SPHERICAL.....	111
CHAIN CLAMP.....	113
CAP, COMPRESSION, WITH HOLE.....	114
CANNULA, STAINLESS STEEL.....	116
CONDENSER, REFLUX, JACKETED, THREADED.....	130
COLUMN, AIR REFLUX, 14/20 JOINT.....	131
COLUMN, DISTILLING, VIGREUX .....	131
CONDENSER, AIR REFLUX, THREADED ..	131



CONDENSER, COIL REFLUX .....	131
CONICAL REACTION VIAL, 14/20, GRADUATED.....	133

## D

DISTILLING COLUMN PACKING.....	21
DISTILLATION APPARATUS, MICROSCALE..	41
DISTILLATION RECEIVER, WITHOUT HOSE CONNECTION.....	41
DISTILLING BULB, KUGELROHR.....	41
DISTILLATION APPARATUS, MICROSCALE, VIGREUX.....	42
DISTILLATION APPARATUS, SHORT PATH, VACUUM JACKETED.....	42
DISTILLING RECEIVER.....	42
DISTILLATION, SHORT PATH WITH 24/40 JOINT.....	43
DISTILLING HEAD, SHORT PATH, FOR VOLATILE DISTILLANTS.....	43
DISTILLING HEAD, SHORT PATH, FOR VOLATILE SOLVENTS.....	43
DISTILLATION APPARATUS, VACUUM.....	44
DISTILLATION RECEIVER, WITH HOSE CONNECTION.....	44
DISTILLING HEAD.....	44
DISTILLATION COW RECEIVER.....	45
DISTILLATION RECEIVER, WITH HOSE CONNECTION.....	45
DISTILLING RECEIVER, GRADUATED, WITH HOOKS.....	45
DISTILLING, COW RECEIVER, GRADUATED ...	45
DISTILLATION RECEIVING COMPONENTS..	46
DISTRIBUTION RECEIVER, VERTICAL ORIENTATION.....	46
DISTILLATION APPARATUS, LARGE SCALE .....	47
DISTILLATION HEAD, JACKETED, VIGREUX, MICRO.....	47
DISTILLATION HEAD, VIGREUX, JACKETED .....	47
DISTILLATION HEAD, VIGREUX, MICRO.....	47
DESICCANT FLASK.....	48

DISTILLATION HEAD, MICROSCALE.....	48
DRYING CHAMBER, ABDERHALDEN.....	48
DISTILLATION RECEIVER, DEAN STARK.....	49
DUAL VACUUM TRAP ASSEMBLY, WITH #15 O-RING JOINTS.....	101
DISTILLING HEAD, SOLVENT.....	106
DISTILLATION HEAD, HICKMAN-HICKMAN-HINKLE, WITH SIDE PORT.....	132
DISH, CRYSTALLIZING, WITH SPOUTS.....	143
DESICCATOR, NON-VACUUM.....	141
DESICCATOR, VACUUM.....	141

## E

EXTRACTION THIMBLE, GLASS.....	50
EXTRACTOR, SOXHLET.....	50

## F

FLASK, DEWAR, LOW FORM, HEMISPHERICAL.....	30
FLASK, DEWAR, WIDE MOUTH, METAL HOUSING.....	30
FLOW CONTROL ADAPTER, CHROMATOGRAPHY, RODAVISS.....	40
FILTRATION APPARATUS, 47MM FRITTED, 40/35.....	52
FILTRATION APPARATUS, 47MM STAINLESS STEEL, 40/35.....	52
FLASK, ROUND BOTTOM, SINGLE NECK....	53
FLASK, FLAT BOTTOM.....	54
FLASK, ROUND BOTTOM WITH HOOKS.....	54
FLASK, ROUND BOTTOM, SPHERICAL JOINT .....	54
FLASK, EVAPORATION.....	55
FLASK, PEAR SHAPED, SINGLE NECK.....	55
FLASK, ROUND BOTTOM, THREADED INLET .....	55
FLASK, RECOVERY.....	56
FLASK, TWO NECK, PEAR SHAPED.....	56
FLASK, TWO NECK, ANGLED.....	57
FLASK, THREE NECK, ANGLED.....	58
FLASK, THREE NECK, VERTICAL.....	59

FLASK, ROUND BOTTOM, 4-NECK, ANGLED .....	60
FLASK, ROUND BOTTOM, THREE NECK, FULLJACKET.....	60
FLASK, ROUND BOTTOM, THREE NECK, HALFJACKETED, WITH STOPCOCK DRAIN..	60
FLASK, ROUND BOTTOM, 3-NECK BOTTOM OUTLET.....	61
FLASK, ROUND BOTTOM, 4-NECK .....	61
FLASK, ROUND BOTTOM, 4-NECK, WITH THREADED SIDE ARM .....	61
FLASK, ERLLENMEYER.....	62
FLASK, FILTERING, WITH JOINT .....	62
FLASK, MODIFIED SCHLENK TUBE .....	64
FLASK, STORAGE WITH OUTER JOINT.....	65
FLASK, HIGH VACUUM VALVE.....	66
FLASK, SOLVENT TRANSFER/STORAGE.....	66
FLASK, REACTION TUBE, HIGH VACUUM VALVE.....	67
FLASK, REACTION, HIGH VACUUM VALVE..	67
FLASK, REACTION, 2-NECK.....	68
FLASK, REACTION, WITH GLASS STOPCOCK .....	68
FLASK, REACTION, WITH TEFLON STOPCOCK.....	68
FLASK, REACTION TUBE.....	69
FILTER FUNNEL.....	70
FILTER FUNNEL, BUCHNER, INNER JOINT, PERFORATED PLATE.....	70
FILTER FUNNEL, FRITTED DISC.....	70
FILTER FUNNEL, PERFORATED PLATE.....	70
FUNNEL, POWDER.....	71
FUNNEL, POWDER, 60° OFFSET.....	71
FUNNEL, POWDER, FLATTENED SIDE.....	71
FUNNEL, SOLVENT ADDITION.....	71
FILTER FUNNEL, BUCHNER, INNER JOIN..	72
FILTER FUNNEL, BUCHNER.....	73
FUNNEL, FILTER, BUCHNER, PERFORATED PLATE.....	74
FILTER, TUBE, FRITTED DISC.....	75
FUNNEL, ADDITION, HIGH VACUUM VALVE .....	75
FUNNEL, FILTER, FRITTED DISC.....	81
FUNNEL, SEPARATORY.....	82, 83, 84

FUNNEL SEPARATORY SURE-GRIP.....	85
FUNNEL, SEPARATORY, SQUIBB, GLASS STOPCOCK.....	85
FUNNEL, PRESSURE EQUALIZING, TEFLON ® METERING STOPCOCK.....	86
FUNNEL, PRESSURE EQUALIZING, GLASS STOPCOCK.....	87
FUNNEL, PRESSURE EQUALIZING, HIGH VACUUM VALVE.....	87
FUNNEL, PRESSURE EQUALIZING, TEFLON ® STOPCOCK.....	87
FOUR FINGER CLAMP (SHANK).....	113
FILER FUNNEL, HIRSCH.....	134
FUNNEL, FILTER.....	133
FLASK, PEAR SHAPE, THREADED.....	134
FLASK, ROUND BOTTOM, 3-NECK.....	134
FLASK, ROUND BOTTOM, THREADED .....	134
FUNNEL, MICRO.....	134
FLASK, ERLLENMEYER, THREADED.....	135
FLASK, FILTERING, MICROSCALE.....	135

## G

GROUND JOINT, REDUCED DIAMETER, EXTENDED, DRIP TUBE.....	10
GAS DISPERSION TUBE, FRITTED.....	74
GAS DISPERSION TUBE, FRITTED, 15° ANGLE .....	74
GAS DISPERSION TUBE, FRITTED, 90° ANGLE .....	74
GLASS CUTTER, NATURAL DIAMOND.....	109

## H

HIGH VACUUM VALVE.....	126
HICKMAN STILL HEAD.....	132
HICKMAN STILL HEAD, WITH SIDE PORT..	132
HEAT TRANSFER BLOCK FOR MINI VIALS .....	135
HEATING TRANSFER BLOCK FOR ROUND BOTTOM FLASK.....	135
HEAVY WALL BEAKER, LOW FORM, DUAL GRADUATION.....	142
HOT PLATE MAGNETIC STIRRER, DIGITAL DISPLAY, 5 INCH.....	144

## I

INLET ADAPTER.....	7
IMMERSION WELL, PHOTOCHEMICAL, QUARTZ, WITHOUT JOINT.....	78

## J

JOINT CLIP, STANDARD TAPER JOINT.....	109
---------------------------------------	-----

## K

KUDERNA-DANISH FLASK.....	51
KIT, MICROSCALE, THREADED, 14 PIECES .....	137
KIT, ORGANIC CHEMISTRY, 14/20.....	138
KIT, ORGANIC CHEMISTRY, 19/22.....	139
KIT, ORGANIC CHEMISTRY, 24/40.....	140

## M

MANIFOLD, VACUUM/INERT GAS, DOUBLE .....	88, 89
MANIFOLD, VACUUM/INERT GAS, ALL GLASS .....	89
MANIFOLD, VACUUM/INERT GAS, ALL GLASS .....	90
MANIFOLD, HIGH VACUUM SOLID GLASS STOPCOCKS.....	91
MANIFOLD, VACUUM/INERT GAS, ALL GLASS .....	91
MANIFOLD, HIGH VACUUM SOLID GLASS STOPCOCKS.....	92, 93
MANIFOLD, NITROGEN/ARGON LINE, TEFLON®.....	94
MANIFOLD, DOUBLE, HOLLOW GLASS STOPCOCKS, SPHERICAL JOINT.....	95
MANIFOLD, DOUBLE, HIGH VACUUM VALVE AND 35/20 SPHERICAL JOINT.....	96
MANIFOLD, DOUBLE, HOLLOW GLASS STOPCOCKS, LEFT HAND SIDE.....	96
MANIFOLD, DOUBLE, HOLLOW GLASS STOPCOCKS, RIGHT HAND SIDE.....	96

MANIFOLD, DOUBLE BANK, WITH #15 O-RING JOINTS.....	97
MANIFOLD, VACUUM, SINGLE, WITH #15 O-RING JOINTS.....	97
MANIFOLD, WITH #15 O-RING JOINTS.....	97
MANIFOLD, SOLVENT TRANSFER.....	98
MICROLITER SAMPLE SYRINGE.....	117
MEDIA BOTTLE.....	143

## N

NYLON® CAP WITH PROTECTED SEAL.....	78
NMR TUBE WASHER.....	141

## O

O-RING, VITON®.....	76
---------------------	----

## P

PEPTIDE SYNTHESIS VESSEL, SOLID PHASE .....	76
PEPTIDE SYNTHESIS VESSEL, SOLID PHASE, T-BORE TEFLON® STOPCOCK.....	76
PEPTIDE SYNTHESIS VESSEL, SOLID PHASE, T-BORE, VACUUM.....	77
PEPTIDE SYNTHESIS VESSEL, WITH LOWER JOINT AND T-BORE PTFE PLUG.....	77
PRESSURE VESSEL, HEAVY WALL.....	79
PRESSURE VESSEL, HEAVY WALL, PROTECTIVE COVERING.....	79, 80
PRESSURE VESSEL, HEAVY WALL.....	80
PLURO-STOPPER.....	114
PLUG, HIGH VACUUM, TEFLON® PROTECTED .....	126
PLUG, HIGH VACUUM, TEFLON® PROTECTED, METERING.....	126

## R

REPLACEMENT RUBBER ADAPTER.....	2
RAPID PURGE VALVE.....	19
RESERVOIR, CHROMATOGRAPHY	
RODAVISS® JOINT.....	40



REACTION VESSEL, PHOTOCHEMICAL, INTERNAL THREAD.....	78
REMOVABLE HOSE CONNECTION, FOR GL THREAD.....	114
REPLACEMENT STAINLESS STEEL RETENTION KIT.....	120

## S

SNYDER DISTILLATION COLUMN.....	51
SEPTUM, TEFLON®.....	78
STOPPER, WITH #15 O-RING JOINT.....	98
SOLVENT STILL HEAD, REPURIFICATION (GREASE-FREE).....	104
STORAGE FLASK, #15 O-RING JOINT.....	104
STORAGE VESSEL, #15 O-RING JOINT.....	104
SOLVENT STILL HEAD.....	105
SOLVENT STILL HEAD, HIGH VACUUM VALVES.....	105
SOLVENT STILL, BUILT-IN CONDENSER...	106
STOPPER, CAP DESIGN.....	107
STOPPER, GLASS, FLASK LENGTH, PENNY-HEAD.....	107
STOPPER, PENNY-HEAD, GLASS, HOLLOW ... .....	107
STOPPER, PENNY-HEAD, GLASS, SOLID.	107
STOPPER, PTFE.....	108
STOPPER, SPHERICAL, PENNY-HEAD.....	108
STOPPER, TEFLON®.....	108
STOPPER, TEFLON®, FLASK LENGTH.....	108
SLEEVE, TEFLON®, RIBBED WITH GRIPPING RING.....	109
SPRING, STAINLESS STEEL.....	109
SPATULAS.....	111
SUPPORT STAND.....	112
SEPTUM, TEFLON®-LINED SILICONE RUBBER.....	114
SEPTUM, STOPPER, SLEEVE TYPE.....	115
SEPTUM, STOPPER, SLEEVE TYPE THREADED.....	115
SYRINGE NEEDLE, STAINLESS STEEL....	116
SAMPLE SYRINGE.....	117
STOPCOCK REPLACEMENT PLUG, 1:5 TEFLON®, METERING VALVE.....	118

STOPCOCK REPLACEMENT PLUG, 1:5 TEFLON®, STRAIGHT BORE.....	118
STOPCOCK, TEFLON® STRAIGHT BORE...	118
STOPCOCK REPLACEMENT PLUG, 1:5 TEFLON®, DOUBLE OBLIQUE BORE.....	119
STOPCOCK REPLACEMENT PLUG, 1:5 TEF- LON®, T-BORE.....	119
STOPCOCK, 1:5 TEFLON®, DOUBLE OBLIQUE BORE.....	119
STOPCOCK, 1:5 TEFLON® T-BORE.....	119
STOPCOCK REPLACEMENT PLUG 1:10, GLA SS.....	120
STOPCOCK, STRAIGHT BORE, GLASS, INTERCHANGEABLE.....	120
STOPCOCK, TEFLON®, 120° BORE.....	120
STOPCOCK, GLASS, HIGH VACUUM, DOUBLE OBLIQUE BORE.....	121
STOPCOCK, GLASS, HOLLOW PLUG, DOUBLE OBLIQUE, HIGH VACUUM.....	121
STOPCOCK, GLASS, HOLLOW PLUG, OBLIQUE, HIGH VACUUM.....	121
STOPCOCK, GLASS, T-BORE.....	121
STOPCOCK, GLASS, HOLLOW PLUG, 90°, HIGH VACUUM.....	122
STOPCOCK, GLASS, HOLLOW PLUG, OFFSET, HIGH VACUUM.....	122
SUBLIMATOR.....	127
SUBLIMATOR, WITH 2MM GLASS STOPCOCK .....	127
SUBLIMATION APPARATUS.....	128
STILL, SOLVENT REFLUX, MICROSCALE...	135
SPIN VANE FOR VIALS.....	136
STIR BAR, CYLINDRICAL.....	136

## T

THERMOMETER, WITH 10/18 JOINT.....	12
TLC DEVELOPING TANKS-CYLINDRICAL....	32
TUBE, STORAGE, HIGH VACUUM VALVE....	63
TUBE, STORAGE, INTERNAL THREAD HIGH VACUUM VALVE.....	63
TUBE, STORAGE WITH OUTER JOINT.....	65
THREE FINGER DOUBLE ADJUST-ABLE CLAMP (LARGE).....	113

TUBE, DRYING, 90° BENT.....	132	5MM NMR TUBES, 100MHZ, CAPS, ECONOMY	
TUBE, CRAIG RECRYSTALLIZATION.....	133	GRADE, 7".....	141

## V

VAPOR DUCT, ROTARY EVAPORATOR.....	18
VACCUUM MANIFOLD, TEFLON® STOPCOCKS	
.....	93, 94
VACUUM MANIFOLD, HIGH VACUUM VALVES	
.....	95
VACUUM TRAP, #15 O-RING JOINT.....	99
VACUUM TRAP, 35/20 BALL JOINTS.....	99
VACUUM TRAP, SPHERICAL JOINTS.....	99
VACUUM TRAP, WITH #15 O-RING JOINT... 100	
VACUUM TRAP, WITH #15 O-RING JOINTS ...	
.....	100
VACUUM TRAP, DEWAR TYPE.....	102
VACUUM TRAP, MICRO, DEWAR.....	102
VACUUM TRAP.....	10
3 VALVE, HIGH VACUUM, PTFE, O-RING, 180°	
.....	12
3 VALVE, HIGH VACUUM, PTFE, O-RING, 90° ..	
.....	123
VALVE, HIGH VACUUM, PTFE, O-RING, THREE-	
WAY.....	123
VALVE,	
HIGE VACUUM, TEFLON® PROTECTED,	
LOW HOLD UP.....	124
VALVE,	
HIGH VACUUM, PTFE, O-RING, T-TYPE ..	
.....	
...124 VALVE, HIGH VACUUM, TEFLON®	
PROTECTED, 180°.....	
...124 VALVE, HIGH VACUUM, TEFLON®	
PROTECTED, 90° METERING.....	125
VALVE, HIGH VACUUM, TEFLON®	
PROTECTED, LOW HOLD UP, METERING ..	
.....	12
5 VIAL, CONICAL REACTION, HEAVY WALL,	
GRADUATED.....	133
VOLUMETRIC FLASK, HEAVY WALL, WITH	
GLASS STOPPER, CLASS A.....	142
VOLUMETRIC FLASK, HEAVY WALL, WITH	
TEFLON STOPPER, CLASS A.....	142



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