

PRODUCT

CATALOG



QUALITY LAB ACCESSORIES

YOUR DISSOLUTION SPECIALISTS



ABOUT US

Quality Lab Accessories, LLC (QLA) is a leading manufacturer and supplier of Dissolution Accessories and Consumables, Calibration Tools and Services to Pharmaceutical Laboratories, worldwide. We pride ourselves on being the only company in our industry that not only has a dedicated sales force but also a fully staffed machine shop and modern manufacturing facility located in Telford, PA. Our products are engineered and manufactured according to the precise specifications of the USP and Original Equipment Manufacturer (OEM). QLA is the “go-to” company for custom fabrication. We solve unique lab problems with innovative designs and common sense solutions.

QLA operates a Quality Management System which complies with the requirements of the ISO 9001 current standard (certificate# FM595556). Our Lab Services division is ISO/IEC 17025 accredited (certificate# L15-277).

In addition to our commitment to ISO, we are also fully committed to all applicable regulatory standards, including:

- U.S. Pharmacopeia General Chapters 701, 711, 724, 1092 and others,
- ASTM E2503 Standard Practice for Qualification of Basket and Paddle Dissolution Apparatus,
- Calibration tools and services are traceable to N.I.S.T. standards.

Our customers know that help from QLA is just a phone call or email away. We have a large inventory of items in stock and ready to ship within 24 hours. Throughout the world, our customers’ needs have been met for over 20 years with unsurpassed customer service and the highest quality products available. QLA’s main goal is to give our customers the ultimate customer experience in our industry!

OUR QUALITY POLICY

Quality Lab Accessories, LLC is committed to exceeding our customer’s expectations through unparalleled customer service, continual quality improvement, equitable pricing and on-time delivery.

Quality Lab Accessories, LLC will strive to add customer value by continually reaching for excellence in all facets of our company’s operation through ongoing reviews of current methods in order to improve our processes and products.

QLA is ISO 9001 registered. Certificate# FM595556.



QLA Lab Services Division is ISO/IEC 17025 accredited. Certificate# L15-277.



PJLA Calibration Accreditation# 83857

MANUFACTURER (OEM) REFERENCES

Equivalent manufacturer product part numbers appear in the “OEM Ref” column of product listings.

An OEM Reference located within a product listing that is not attributed to a specific manufacturer will have the relevant manufacturer’s initial icon adjacent to it.

When “QLA” appears in the OEM Ref column, it signifies a QLA innovated product designed for use in that manufacturer’s dissolution application or universal products which can be used in all dissolution applications.



All QLA dissolution accessories and consumables have been manufactured in the USA and are U.S. Pharmacopeia compliant where applicable and meet machine manufacturer’s specifications. Information including QLA part numbers, descriptions, OEM part numbers and specifications in this publication are subject to change without notice.



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BASKETS

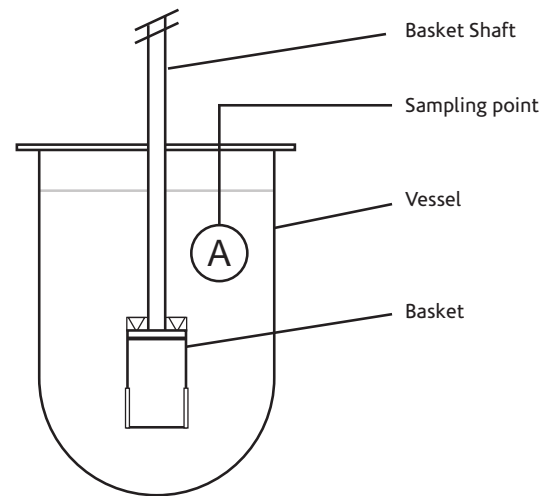
THE BASKET METHOD Apparatus 1

Adopted in 1970, the rotating basket method of dissolution testing was the first official method. It essentially consists of an approximately 1 inch (25.4mm) × 1 3/8 inch (34.925mm) stainless steel, 40 mesh wire basket rotated at a constant speed between 25 and 150rpm. This method is now called Apparatus 1 (or Method 1).

The apparatus consists of a metallic drive shaft connected to the cylindrical basket. The basket is positioned inside a vessel made of glass or other inert, transparent material (see page 20). The vessel contents are kept at a constant temperature by being placed inside a water bath or heating jacket. The solution in the vessel is stirred smoothly by the rotating basket.

The USP Method 1 requires a 40 mesh screen unless otherwise specified in the monograph. Other meshes can be used to solve individual problems.

Baskets and basket shafts should be serialized where possible and the serial number noted for each test. All baskets are supplied with a Certificate of Conformance (COC) stating that they are USP compliant, where applicable, and that they meet the machine manufacturer specifications. A Certificate of Analysis (COA) is available at an additional cost.

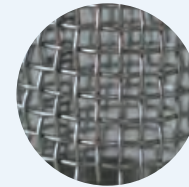


KEY CONSIDERATIONS

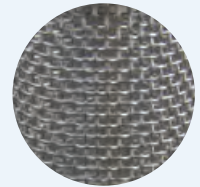
Mesh Openings — One of the biggest problems associated with the basket method involves the clogging of the mesh openings by particles or excipients or the random release of particles through the mesh to the bottom of the vessel. Baskets with a wide variety of mesh openings are available and if the disaggregated particle size is consistent, a variation of mesh size may solve some difficult dissolution problems.

Sintered Mesh — Every QLA stainless steel basket, that conforms to USP, is manufactured using a sintered mesh. Sintering is a strengthening process that compresses and heats the mesh under high pressures and temperatures. This results in welded joints at all the wire overlaps and adds considerable strength and longevity to the basket.

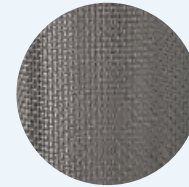
Suppository Baskets — Made from plastic, these baskets have vertical slots instead of mesh to facilitate dissolution. Blocking and/or clogging of the mesh opening is prevented by the use of such a basket, particularly when oil-based suppositories are used.



10 MESH



20 MESH



40 MESH



SUPPOSITORY BASKETS

Note: Other mesh sizes are available on request. For more information, contact your QLA Sales Rep.

CARE & MAINTENANCE

Basket Handling — Since dissolution basket mesh is easily deformed, baskets should only be handled by the upper rim. QLA offers a special tool for installation and removal of baskets from the basket shaft (see page 6).

Basket Cleaning — Care should be exercised to ensure that baskets are clean prior to use. Often the dosage form can clog the mesh which will prevent free media movement into the basket. Careful cleaning is required to ensure there is no contamination between tests.

Basket Storage — Baskets should be stored correctly to extend their life. They can frequently be found rolling around in a lab drawer! Baskets can easily be stored in the supplier's case or using a specially designed basket holder (see page 7).

Note: All baskets are laser marked with a unique serial number and come with COC (where applicable).



AGILENT COMPATIBLE BASKETS
(INCLUDES LEGACY VANKEL)

| Part No. | Description | OEM Ref |
|-----------|--|---------|
| BSK010-01 | 10 Mesh Basket, Clip Style, 316 SS, Serialized | 12-2125 |
| BSK020-01 | 20 Mesh Basket, Clip Style, 316 SS, Serialized | 12-2120 |
| BSK040-01 | 40 Mesh (USP) Basket, Clip Style, 316 SS, Serialized | 12-2100 |
| BSK100-01 | 100 Mesh Basket, Clip Style, 316 SS, Serialized | 12-2154 |
| BSKPTV-40 | 40 Mesh Basket, Clip Style, PTFE Coated over 316 SS | 12-2110 |
| BSKSUP-01 | Suppository Basket, Plastic | 12-2130 |



DISTEK COMPATIBLE BASKETS

| Part No. | Description | OEM Ref |
|------------|---|-----------|
| BSK010-DK | 10 Mesh Basket, Standard Push-On Style, 316 SS, Serialized | 2821-0160 |
| BSK010-DKC | 10 Mesh Basket, Evolution Style, 316 SS, Serialized | 2800-0041 |
| BSK020-DK | 20 Mesh Basket, Standard Push-On Style, 316 SS, Serialized | 2821-0159 |
| BSK020-DKC | 20 Mesh Basket, Evolution Style, 316 SS, Serialized | 2800-0042 |
| BSK040-DK | 40 Mesh (USP) Basket, Standard Push-On Style, 316 SS, Serialized | 2821-0072 |
| BSK040-DKC | 40 Mesh (USP) Basket, Evolution Style, 316 SS, Serialized | 2800-0032 |
| BSK100-DK | 100 Mesh Basket, Standard Push-On Style, 316 SS, Serialized | 2800-0004 |
| BSK100-DKC | 100 Mesh Basket, Evolution Style, 316 SS, Serialized | 2800-0043 |
| BSKPTD-40 | 40 Mesh Basket, Standard Push-On Style, PTFE Coated over 316 SS | QLA |
| BSKSUP-DK | Suppository Basket, Plastic | 3250-0445 |
| BSKHUB-DK | Basket Adapter Hub for Standard Push-On Style, 316 SS, Serialized | 2821-1052 |
| BSKHUB-DKC | Basket Adapter Hub for Evolution Style, 316 SS, Serialized | 2821-0459 |
| BSKCLP-DKC | Basket Clip for Evolution Style Hub, 316 SS | 3100-0017 |



ERWEKA COMPATIBLE BASKETS

| Part No. | Description | OEM Ref |
|-----------|--|-------------|
| BSK010-EW | 10 Mesh Basket, Clip Style, 316 SS, Serialized | 90-000-6010 |
| BSK020-EW | 20 Mesh Basket, Clip Style, 316 SS, Serialized | 90-000-6020 |
| BSK040-EW | 40 Mesh (USP) Basket, Clip Style, 316 SS, Serialized | 90-000-6040 |
| BSKSUP-EW | Suppository Basket, Plastic | 70-000-5004 |



HANSON COMPATIBLE BASKETS

| Part No. | Description | OEM Ref |
|------------|--|------------|
| BSK010-HR | 10 Mesh Basket, Clip Style, 316 SS, Serialized | 65-220-010 |
| BSK020-HR | 20 Mesh Basket, Clip Style, 316 SS, Serialized | 65-220-020 |
| BSK040-HRP | 40-Mesh (USP) Precision Basket, Clip Style, 316 SS, Serialized | 74-105-252 |
| BSK100-HR | 100 Mesh Basket, Clip Style, 316 SS, Serialized | QLA |
| BSKP40 | 40 Mesh Basket, Clip Style, PTFE Coated over 316 SS | QLA |
| BSKSUP-HR | Suppository Basket, Plastic | 65-700-048 |



PHARMATEST COMPATIBLE BASKETS

| Part No. | Description | OEM Ref |
|-----------|--|----------|
| BSK010-PT | 10 Mesh Basket, Clip Style, 316 SS, Serialized | 311-2804 |
| BSK020-PT | 20 Mesh Basket, Clip Style, 316 SS, Serialized | QLA |
| BSK040-PT | 40 Mesh (USP) Basket, Clip Style, 316 SS, Serialized | 311-2803 |
| BSKPTP-40 | 40 Mesh Basket, Clip Style, PTFE Coated over 316 SS | QLA |
| BSKSUP-PT | Suppository Basket, Plastic | QLA |



SOTAX COMPATIBLE BASKETS

| Part No. | Description | OEM Ref |
|-----------|--|---------|
| BSK010-ST | 10 Mesh Basket, Clip Style, 316 SS, Serialized | QLA |
| BSK020-ST | 20 Mesh Basket, Clip Style, 316 SS, Serialized | QLA |
| BSK040-ST | 40 Mesh (USP) Basket, Clip Style, 316 SS, Serialized | 2830 |
| BSKSUP-ST | Suppository Basket, Plastic | QLA |



BASKET INSERTION AND REMOVAL TOOL

QLA's Basket Tool provides a firm grip on baskets without damage to the basket during insertion and removal from shafts. The tool grabs the lower rim and protects the delicate wire mesh for an easy fit of basket onto shaft.

Key Benefits:

- Can be used with any standard size dissolution basket
- Decreases contamination from hands
- Basket damage can result in excessive basket wobble and mechanical calibration failure
- Simple but effective design
- Can significantly increase the life of baskets and pay for itself in no time.

| Part No. | Description | OEM Ref |
|------------|---|---------|
| BSKTOOL | Basket Insertion/Removal Tool | QLA |
| BSKTOOL-DK | Basket Insertion/Removal Tool for thick rim baskets | QLA |



OVERSIZE 40 MESH 24.5MM ID BASKET AND BASKET SHAFTS

| Part No. | Description | OEM Ref |
|--------------|---|---------|
| CUSTBSK-40 | 40 Mesh Basket, Clip Style, 24.5mm ID, 316 SS, Serialized | QLA |
| CLIPHUB-DK | Detachable Basket Hub for 24.5mm Basket, 316 SS, Serialized (Distek compatible) | QLA |
| CUSTSHT-DK | 16.5" (420mm) Basket Shaft for 24.5mm Basket, 316 SS, Serialized (Distek compatible) | QLA |
| CUSTSHT-EW20 | 20" (508mm) Basket Shaft for 24.5mm Basket, 316 SS, Serialized (Erweka compatible) | QLA |
| CUSTSHT-HR | 16" Basket (405mm) shaft for 24.5mm Basket, 316 SS, Serialized (Hanson SR8-Plus compatible) | QLA |
| CUSTSHT-HRV | Basket Shaft for 24.5mm Basket, 316 SS, Serialized (Hanson Vision compatible) | QLA |
| CUSTSHT-VK15 | 15" (380mm) Basket Shaft for 24.5mm Basket, 316 SS, Serialized (VanKel/Varian compatible) | QLA |
| CUSTSHT-VK13 | 14.5" (370mm) Basket Shaft for 24.5mm Basket, 316 SS, Serialized (V-Series compatible) | QLA |
| CUSTSHT-VK19 | 19" (480mm) Basket Shaft for 24.5mm Basket, 316 SS, Serialized | QLA |



CUSTBSK-40



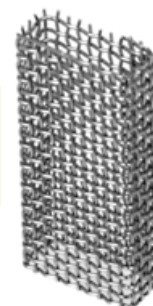
BASKET SHAFT FOR 24.5MM BASKET

Note: Custom length shafts and other mesh sizes are available upon request.

METFORMIN SAMPLE HOLDERS

| Part No. | Description | OEM Ref |
|----------------|--|------------------|
| VERTHLD-500 | Vertical Sample Holder for Metformin 500mg, 316 SS | 12-2170 A |
| VERTHLD-750-1K | Vertical Sample Holder for Metformin 750mg or 1000mg, 316 SS | 12-2165 A |

OEM Key
A AGILENT



VERTHLD-500



VERTHLD-750-1K

BASKET STORAGE

QLA's Basket Holders provide a convenient way to organize and store baskets when not in use. The chances of accidentally damaging baskets can be significantly reduced with the use of a good quality basket holder.

Key Benefits:

- Compatible with all popular basket types (Agilent, Distek, Erweka, Hanson, Pharmatest, Sotax)
- To ensure your tests meet USP requirements, it is essential that all baskets are not bent or deformed
- O-rings ensure baskets are held firmly to the holder
- Fully stackable to maximize storage space and transport many baskets
- Low cost — it pays for itself by preventing damage to just one basket!

| Part No. | Description | OEM Ref |
|-----------|---------------------------|---------|
| BSKHLD-6 | 6 Position Basket Holder | QLA |
| BSKHLD-12 | 12 Position Basket Holder | QLA |



BSKHLD-6



BSKHLD-12

FELODIPINE BASKETS

Can be used on most dissolution testers.

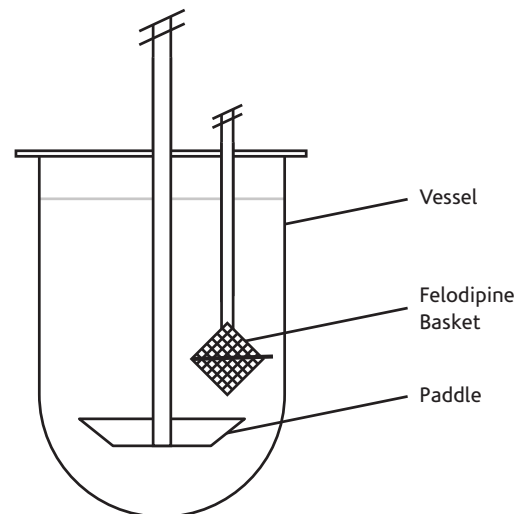
The USP Monograph for Felodipine Extended-Release Tablets specifies the use of a quadrangular stationary basket. The QLA Stationary Basket fully complies with the USP Monograph.

The QLA Felodipine Basket is made from precision welded 316 stainless steel mesh and the basket is securely fixed to the shaft and will not easily bend or break off. The basket also features a small flap to prevent the tablet from escaping during testing. The flap is fabricated so that it will not fall off or be lost during use.

USP 26 requires the use of a basket suspended a precise distance from the paddle shaft, which in turn requires the use of a modified vessel cover.

Key Considerations:

- The Felodipine Basket method offers a potential solution to problems associated with floating, sticking and swelling dosage forms.
- While the use of sinkers may solve similar problems, their final position in the dissolution vessel may vary, thus contributing to variations in test results — these variations can be eliminated by using the stationary basket.
- Suitability for certain applications must be verified.



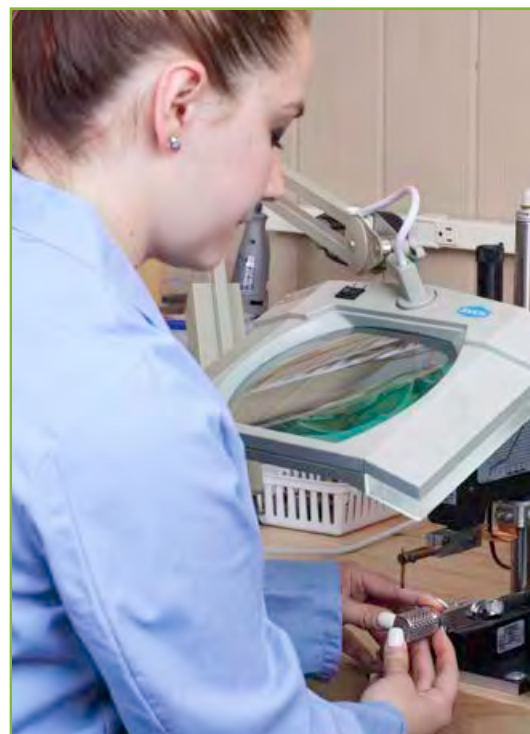
| Part No. | Description | OEM Ref |
|------------|--|---------|
| STABSK-VK8 | Felodipine Quadrangular Basket, 8 Mesh, 316 SS | QLA |



STATIONARY BASKETS

Can be used on most dissolution testers. A modified vessel cover may be needed.

| Part No. | Description | OEM Ref |
|-----------|---|------------------|
| STABSK-10 | Stationary Basket Assembly with Basket Shaft and 10 Mesh Basket, 316 SS | 12-2061 A |
| STABSK-20 | Stationary Basket Assembly with Basket Shaft and 20 Mesh Basket, 316 SS | 12-2060 A |
| STABSK-40 | Stationary Basket Assembly with Basket Shaft and 40 Mesh Basket, 316 SS | 12-2063 A |



QLA is the Only On-site Basket Manufacturer in the Industry

All baskets made in our facility with a focus on precision and quality.

BASKET SHAFTS

THE BASKET SHAFT Apparatus 1

The basket shaft is the metallic drive shaft in Apparatus 1 which is connected to the cylindrical basket. See page 4 for more information on Apparatus 1. All shafts are constructed from type 316 electropolished stainless steel.

KEY CONSIDERATIONS

Clip or Clipless?

Spring Clips — The USP standard dissolution basket is designed to attach to the basket shaft using spring clips. Over time these clips can lose strength and fail to grip the basket securely. Baskets that are not gripped securely are likely to exhibit excessive wobble. Only QLA clips are made from special spring tempered 316 stainless steel. Competitors' clips are made from annealed 316 stainless steel. Spring tempered 316 stainless steel clips will maintain its gripping strength much longer than annealed 316 stainless steel clips.

O-Ring — The clipless basket fastens to the shaft using an O-ring instead of clips. While it can be argued that this design reduces wobble and is easier to use, the USP still specifies the use of clips and proof of equivalence may be required if a clipless alternative is to be used.



SPRING CLIP STYLE



O-RING STYLE

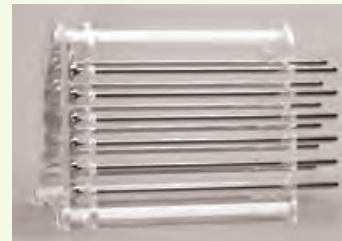
Note: All basket shafts are laser marked with a unique serial number and come with COC.



CARE & MAINTENANCE

Shaft Storage — Bent or scratched shafts fail to comply with USP regulations so it is essential not to store shafts on a desk or loose in a drawer where damage or corrosion can occur. Proper storage in a basket shaft/paddle holder can prevent damage from occurring. See page 11 for Basket Shaft/Paddle Holders.

Wobble — A Wobble Meter (WOBMET-MI) is available to monitor basket shaft wobble. See page 42 for Wobble Meter.



BASKET SHAFT/PADDLE HOLDER



WOBBLE METER

AGILENT COMPATIBLE BASKET SHAFTS

(INCLUDES LEGACY VANKEL)

| Part No. | Description | OEM Ref |
|-------------|--|---------|
| BSKSHT-13 | 14.5" (370mm) Basket Shaft for V-Series, Spring Clip Style, 316 SS, Serialized | 13-3615 |
| BSKSHT-15 | 15" (380mm) Basket Shaft, Spring Clip Style, 316 SS, Serialized | 12-2070 |
| BSKSHT-15C | 15" (380mm) Conical Basket Shaft, Spring Clip Style, 316 SS, Serialized | 12-2075 |
| BSKSHT-15CO | 15" (380mm) Conical Basket Shaft, Push-On Style, 316 SS, Serialized | 12-2050 |
| BSKSHT-19 | 19" (480mm) Basket Shaft, Spring Clip Style, 316 SS, Serialized | 12-2080 |
| BSKSHT-19C | 19" (480mm) Conical Basket Shaft, Spring Clip Style, 316 SS, Serialized | 12-2081 |
| BSKSHT-19CO | 19" (480mm) Conical Basket Shaft, Push-On Style, 316 SS, Serialized | 12-2056 |
| BSKSHT-21 | 21" (535mm) Basket Shaft, Spring Clip Style, 316 SS, Serialized | 13-3620 |
| BSKSHT-24 | 24" (610mm) Basket Shaft, Spring Clip Style, 316 SS, Serialized | 13-3629 |



BSKSHT-13, BSKSHT-15, BSKSHT-19, BSKSHT-21, BSKSHT-24



BSKSHT-15C, BSKSHT-19C



BSKSHT-15CO, BSKSHT-19CO

DISTEK COMPATIBLE BASKET SHAFTS

| Part No. | Description | OEM Ref |
|-------------|--|-------------|
| BSDRNG-16 | 16.5" (420mm) Basket Shaft, Standard Push-On Style, 316 SS, Serialized | 2821-0074 |
| BSDRNG-19 | 19" (480mm) Basket Shaft, Standard Push-On Style, 316 SS, Serialized | QLA |
| BSKSHT-16.5 | 16.5" (420mm) Basket Shaft, Spring Clip Style, 316 SS, Serialized | QLA |
| SHFT16.5-DK | 16.5" (420mm) Detachable Shaft, 316 SS, Serialized | 2800-0165 |
| SHFT21-DK | 21" (535mm) Detachable Shaft, 316 SS, Serialized | 2800-0334 |
| SHFT21-NPD | 21" (535mm) Detachable Shaft, PTFE coated over 316 SS, Serialized | 2800-0334-T |
| BSKHUB-DK | Basket Adapter Hub for Standard Push-On Style, 316 SS, Serialized | 2821-1052 |
| BSKHUB-DKC | Basket Adapter Hub for Evolution Style, 316 SS, Serialized | 2821-0459 |
| BSKCLP-DKC | Basket Clip for Evolution Style, 316 SS | 3100-0017 |
| ORING-DK | Red Silicone O-Ring for Distek Basket Hubs (Pack/12) | 5570-8007 |
| ORING-SHFT | Black Viton O-Ring for Distek Detachable Shafts (Pack/12) | 5570-8044 |
| TUMSCR-DK | Shaft Collar with Thumb Screw for 2100 Series | 2821-0094 |



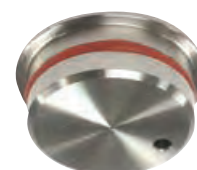
BSDRNG-16, BSDRNG-19



SHFT16.5-DK, SHFT21-DK



BSKCLP-DKC



BSKHUB-DK



BSKHUB-DKC

ERWEKA COMPATIBLE BASKET SHAFTS

| Part No. | Description | OEM Ref |
|-----------|--|---------|
| BSKSEW-15 | 15" (380mm) Basket Shaft with 10mm OD, Spring Clip Style, 316 SS, Serialized | QLA |
| BSKSEW-19 | 19" (480mm) Basket Shaft with 10mm OD, Spring Clip Style, 316 SS, Serialized | QLA |



BSKSEW-15, BSKSEW-19

HANSON (SR8-PLUS) COMPATIBLE BASKET SHAFTS

| Part No. | Description | OEM Ref |
|-----------|---|------------|
| BSKSHT-16 | 16" (405mm) Basket Shaft, Spring Clip Style, 316 SS, Serialized | 65-237-000 |

Note: Hanson Vision 2-piece Shafts can be found in SPIN SHAFT Section, page 14.



BSKSHT-16

SOTAX COMPATIBLE BASKETS

| Part No. | Description | OEM Ref |
|-----------|--|---------|
| BSKSHT-ST | Basket Shaft with 10mm OD, Spring Clip Style, 316 SS, Serialized | QLA |



BSKSHT-ST

Don't see what you're looking for in this catalog?

QLA continually adds new products and has the largest inventory of dissolution accessories available. Most items are in stock and ship within 24 hrs!

Be sure to check out our website at www.QLA-LLC.com

PADDLES

THE PADDLE METHOD Apparatus 2

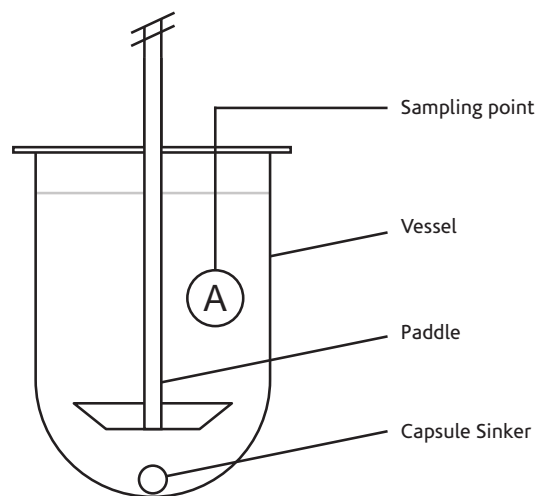
Apparatus 2, commonly known as the paddle method, has similar physical specifications to those of Apparatus 1 with a paddle substituted for the rotating basket.

Some of the dimensions and tolerances for the paddle are critical if consistent results are to be obtained from vessel to vessel.

The USP specifies that the paddle must rotate smoothly without significant wobble. The arc of the paddle blade creates considerable flow and any wobble will have an exaggerated effect on the flow profile.

The contours of the paddle blade must not include any sharp edges — at the tips for instance — that could produce turbulent instead of laminar flow patterns.

All QLA paddles are certified U.S. Pharmacopeia compliant where applicable and meet machine manufacturer specifications.



KEY CONSIDERATIONS

Types of Paddles:

Electropolished 316 Stainless Steel — The 316 stainless steel (316 SS) shaft is strong and has a high resistance to bending. It is electropolished for removal of surface impurities and corrosion resistance.

PTFE Coated — The USP suggests that paddles may be coated with an inert coating. Most paddles are accordingly coated with PTFE or another inert coating. If peeling or flaking of the coating is observed then the paddles should be replaced.

Solid Fluoropolymer — The single piece molded design features a fluoropolymer blade and single piece stem molded onto an electropolished 316 SS shaft.

This innovative design features no paddle-to-shaft joint, thus eliminating potential cross-contamination and removing a probable corrosion path. Wobble is also considerably reduced in the solid fluoropolymer paddle because it is a single piece cast.

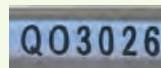
CARE & MAINTENANCE

Shaft Storage — Bent or scratched shafts fail to comply with USP regulations so it is essential not to store shafts on a desk or loose in a drawer where damage or corrosion can occur. Proper storage in a basket shaft/paddle holder can prevent damage from occurring. See below for Basket Shaft/Paddle Holders.

Wobble — A Wobble Meter (WOBMET-MI) is available to monitor paddle wobble. See page 42 for Wobble Meter.



Note: All paddles are laser marked with a unique serial number and come with COC.



BASKET SHAFT/PADDLE HOLDERS

Ideal for both basket shaft and paddle storage.

Key Benefits:

- Prevents shafts/paddles from becoming bent or scratched
- Allows quick and easy transport of many shafts/paddles
- Handy end plate to stop shafts/paddles sliding out when carrying
- Holds most lengths and types of basket shafts and paddles
- Non-corrosive, quality plastic construction
- Space-saving, attractive design
- Available in both 12 and 16 shaft capacities



Dual Purpose: The Basket Shaft/Paddle Holders are designed for optimal handling and storage of both basket shafts and paddles. Why not use one to keep a set of both paddles and basket shafts next to each bath?

| Part No. | Description | OEM Ref |
|------------|---------------------------------|---------|
| PADHLD-12A | 12 Position Paddle/Shaft Holder | QLA |
| PADHLD-16A | 16 Position Paddle/Shaft Holder | QLA |

POLISHED STAINLESS STEEL PADDLE (EPD SERIES)



PTFE COATED PADDLE (NPD SERIES)



SOLID FLUOROPOLYMER PADDLE (TPD SERIES)



AGILENT COMPATIBLE PADDLES (INCLUDES LEGACY VANKEL)

| Part No. | Description | OEM Ref |
|-----------|---|---------|
| EPD013-01 | 14.5" (370mm) Paddle for V-Series, Electropolished 316 SS, Serialized | 13-3590 |
| EPD015-01 | 15" (380mm) Paddle, Electropolished 316 SS, Serialized | 12-1030 |
| EPD019-01 | 19" (480mm) Paddle, Electropolished 316 SS, Serialized | 12-1040 |
| EPD021-01 | 21" (535mm) Paddle, Electropolished 316 SS, Serialized | 13-3595 |
| EPD024-01 | 24" (610mm) Paddle, Electropolished 316 SS, Serialized | 13-3597 |
| NPD013-01 | 14.5" (370mm) Paddle for V-Series, PTFE coated over 316 SS, Serialized | 13-3589 |
| NPD015-01 | 15" (380mm) Paddle, PTFE coated over 316 SS, Serialized | 12-1000 |
| NPD019-01 | 19" (480mm) Paddle, PTFE coated over 316 SS, Serialized | 12-1010 |
| NPD021-01 | 21" (535mm) Paddle, PTFE coated over 316 SS, Serialized | 13-3594 |
| NPD024-01 | 24" (610mm) Paddle, PTFE coated over 316 SS, Serialized | 13-3596 |
| TPD013-01 | 14.5" (370mm) Paddle for V-Series, Solid Molded Fluoropolymer, One Piece Design, Serialized | QLA |
| TPD015-01 | 15" (380mm) Paddle, Solid Molded Fluoropolymer, One Piece Design, Serialized | QLA |
| TPD019-01 | 19" (480mm) Paddle, Solid Molded Fluoropolymer, One Piece Design, Serialized | QLA |
| TPD021-01 | 21" (535mm) Paddle, Solid Molded Fluoropolymer, One Piece Design, Serialized | QLA |

DISTEK COMPATIBLE PADDLES

| Part No. | Description | OEM Ref |
|-------------|--|-------------|
| EPD016-02 | 16.5" (420mm) Paddle, Electropolished 316 SS, Serialized | QLA |
| NPD016-02 | 16.5" (420mm) Paddle, PTFE coated over 316 SS, Serialized | 2821-0171 |
| TPD016-02 | 16.5" (420mm) Paddle, Solid Molded Fluoropolymer, One Piece Design, Serialized | QLA |
| SHFT16.5-DK | 16.5" (420mm) Detachable Shaft, 316 SS, Serialized | 2800-0165 |
| SHFT21-DK | 21" (535mm) Detachable Shaft, 316 SS, Serialized | 2800-0334 |
| SHFT21-NPD | 21" (535mm) Detachable Shaft, PTFE coated over 316 SS, Serialized | 2800-0334-T |
| ORING-SHFT | Black Viton O-Ring for Distek detachable shafts (Pack/12) | 5570-8044 |
| PDLBLD-DK | Paddle Blade, Electropolished 316 SS, Serialized | 3251-1050 |
| PDLBLD-NPD | Paddle Blade, PTFE coated over 316SS, Serialized | 3251-1050-T |
| TUMSCR-DK | Shaft Collar with Thumb Screw for 2100 Series | 2821-0094 |



HANSON (SR8-PLUS) COMPATIBLE PADDLES

| Part No. | Description | OEM Ref |
|-----------|--|------------|
| EPD016-01 | 16" (405mm) Paddle, Electropolished 316 SS, Serialized | 65-700-036 |
| NPD016-01 | 16" (405mm) Paddle, PTFE coated over 316 SS, Serialized | QLA |
| TPD016-01 | 16" (405mm) Paddle, Solid Molded Fluoropolymer, One Piece Design, Serialized | 72-800-456 |
| TPD018-01 | 18" (460mm) Paddle, Solid Molded Fluoropolymer, One Piece Design, Serialized | 72-800-461 |

SOTAX COMPATIBLE PADDLES

| Part No. | Description | OEM Ref |
|-----------|--|---------|
| TPD012-ST | 11.85" (300mm) Paddle with 10mm OD, Solid Molded Fluoropolymer, One Piece Design, Serialized | QLA |

Note: Hanson Vision 2-piece Shafts can be found in SPIN SHAFT Section, page 14.

SPIN SHAFT ACCESSORIES

THE SPIN SHAFT Apparatus 1 & 2

Spin On/Off Shafts for Apparatus 1 & 2 offer a quick, convenient change between paddle and basket methods without the need to reset the shaft height.

These two-piece basket/paddle/cylinder shafts join above the media to prevent potential contamination.

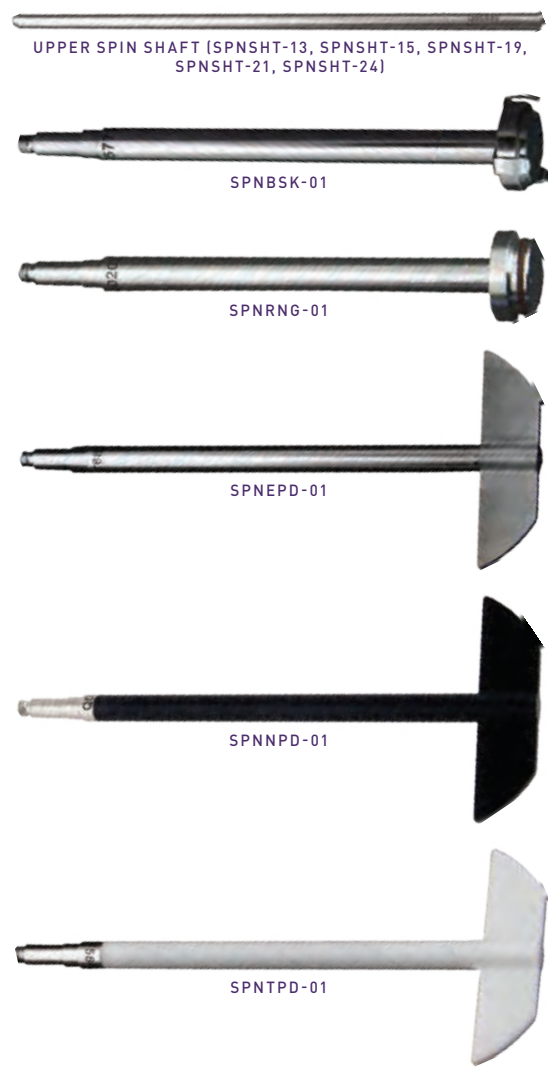
KEY CONSIDERATIONS

Spin Shaft Features:

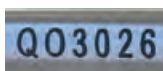
- Spin On/Off Shafts may be used on any Agilent/VanKel, Distek, Erweka, or Hanson dissolution instruments.
- Distek's primary design is the bottom detachable basket hub and paddle blade but QLA also manufactures Spin On/Off Shafts for Distek 2100 and 2500 baths as well.
- It is unnecessary to remove the shaft when changing from APP 1 to APP 2.
- There is no need to readjust shaft height or the locking mechanism.
- The attachment connection for Spin On/Off Shafts is located outside the media, eliminating any chance of contamination.
- Precision manufacturing has assured USP compliance and detachable components meet USP specifications.
- Spin On/Off Shafts are engineered to minimize the risk of cross-threading and ensure a secure connection.
- Wobble data is well within USP tolerance.

AGILENT COMPATIBLE SPIN SHAFT ACCESSORIES (INCLUDES LEGACY VANKEL)

| Part No. | Description | OEM Ref |
|-----------|---|---------|
| SPNSHT-13 | Spin ON/OFF 14.5" (370mm) Upper Shaft for V-Series, 316 SS, Serialized (when fully assembled) | QLA |
| SPNSHT-15 | Spin ON/OFF 15" (380mm) Upper Shaft, 316 SS, Serialized (when fully assembled) | 13-3612 |
| SPNSHT-19 | Spin ON/OFF 19" (480mm) Upper Shaft, 316 SS, Serialized (when fully assembled) | 12-1401 |
| SPNSHT-21 | Spin ON/OFF 21" (535mm) Upper Shaft, 316 SS, Serialized (when fully assembled) | 13-3613 |
| SPNSHT-24 | Spin ON/OFF 24" (610mm) Upper Shaft, 316 SS, Serialized (when fully assembled) | 13-3614 |
| SPNBSK-01 | Spin ON/OFF Basket Shaft, Spring Clip Style, 316 SS, Serialized | 13-3631 |
| SPNRNG-01 | Spin ON/OFF Basket Shaft, Push-On Style for VanKel, 316 SS, Serialized | 12-1431 |
| SPNEPD-01 | Spin ON/OFF Paddle, Electropolished 316 SS, Serialized | 13-3603 |
| SPNNPD-01 | Spin ON/OFF Paddle, PTFE Coated over 316 SS, Serialized | 13-3602 |
| SPNTPD-01 | Spin ON/OFF Paddle, Solid Molded Fluoropolymer, One Piece Design, Serialized | QLA |



Note: All spin shafts are laser marked with a unique serial number and come with COC.



DISTEK

COMPATIBLE SPIN SHAFT ACCESSORIES

| Part No. | Description | OEM Ref |
|-------------|--|---------|
| SPNSHT-16.5 | Spin ON/OFF 16.5" (420mm) Upper Shaft, 316 SS, Serialized (when fully assembled) | QLA |
| SPNSHT-21 | Spin ON/OFF 21" (535mm) Upper Shaft, 316 SS, Serialized (when fully assembled) | QLA |
| SPNRNG-DK | Spin ON/OFF Basket Shaft, Standard Push-On Style for Distek, 316 SS, Serialized | QLA |
| SPNEPD-01 | Spin ON/OFF Paddle, Electropolished 316 SS, Serialized | QLA |
| SPNNPD-01 | Spin ON/OFF Paddle, PTFE Coated over 316 SS, Serialized | QLA |
| SPNTPD-01 | Spin ON/OFF Paddle, Solid Molded Fluoropolymer, One Piece Design, Serialized | QLA |

ERWEKA

COMPATIBLE SPIN SHAFT ACCESSORIES

| Part No. | Description | OEM Ref |
|-------------|--|---------|
| SPNSHT-7EW | Spin ON/OFF 7" (180mm) Upper Shaft for Low Head, 316 SS, Serialized | QLA |
| SPNSHT-15EW | Spin ON/OFF 15" (380mm) Upper Shaft for High Head, 316 SS, Serialized | QLA |
| SPNBSK-EW | Spin ON/OFF Basket Shaft, Spring Clip Style, 316 SS, Serialized | QLA |
| SPNEPD-EW | Spin ON/OFF Paddle, Electropolished 316 SS, Serialized | QLA |
| SPNTPD-EW | Spin ON/OFF Paddle, Solid Molded Fluoropolymer, One Piece Design, Serialized | QLA |

HANSON

COMPATIBLE SPIN SHAFT ACCESSORIES

SR8-Plus

| Part No. | Description | OEM Ref |
|-----------|--|---------|
| SPNSHT-16 | Spin ON/OFF 16" (405mm) Upper Shaft, 316 SS, Serialized (when fully assembled) | QLA |
| SPNBSK-HR | Spin ON/OFF Basket Shaft, Spring Clip Style, 316 SS, Serialized | QLA |
| SPNEPD-01 | Spin ON/OFF Paddle, Electropolished 316 SS, Serialized | QLA |
| SPNNPD-01 | Spin ON/OFF Paddle, PTFE Coated over 316 SS, Serialized | QLA |
| SPNTPD-01 | Spin ON/OFF Paddle, Solid Molded Fluoropolymer, One Piece Design, Serialized | QLA |

SPIN SHAFT TIGHTENING AND LOOSENING TOOL

- Provides for a secure connection and ensures the 2 piece shaft doesn't come loose or detached during operation
- Rubber lined for extra grip and will not scratch or damage the shaft
- Use two tools for best results.

| Part No. | Description | OEM Ref |
|----------|---------------------------------------|---------|
| SHFTOOL | Spin Shaft Tightening/ Loosening Tool | QLA |



Vision

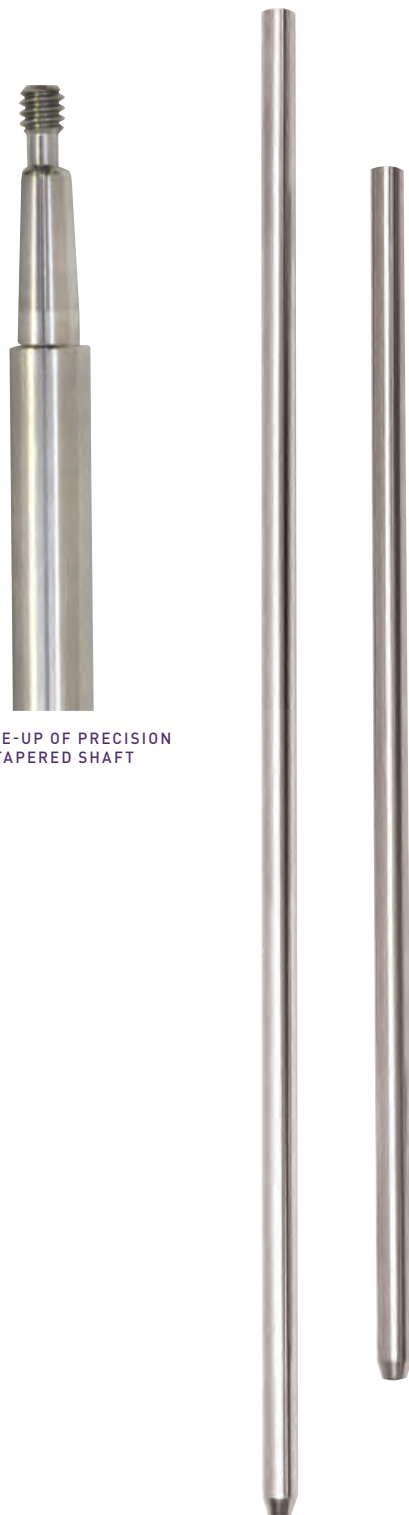
| Part No. | Description | OEM Ref |
|------------|--|------------|
| 74-105-050 | 10" (255mm) Upper Spin Shaft, 316 SS, Serialized | 74-105-050 |
| 74-205-050 | 15" (380mm) Upper Spin Shaft, 316 SS, Serialized | 74-205-050 |
| 74-105-251 | Spin Basket Shaft, Spring Clip Style, 316 SS, Serialized | 74-105-251 |
| 74-105-202 | Spin Paddle, Electropolished 316 SS, Serialized | 74-105-202 |
| 74-105-201 | Spin Paddle, Solid Molded Fluoropolymer, One Piece Design, Serialized | 74-105-201 |
| 74-105-371 | Spin Basket Shaft for 2L, Spring Clip Style, 316 SS, Serialized | 74-105-371 |
| 74-105-361 | Spin Paddle for 2L, Electropolished 316 SS, Serialized | 74-105-361 |
| 74-105-351 | Spin Paddle for 2L, Solid Molded Fluoropolymer, One Piece Design, Serialized | 74-105-351 |

ULTRACENTER™ PRECISION TAPERED SHAFTS

Patent Pending

QLA UltraCenter™ Precision Tapered upper and lower shafts provide a significantly more accurate paddle and/or basket shaft assembly. The tapered fit between the upper and lower shaft results in an extremely concentric assembly with far less wobble. They were specifically designed to complement QLA AccuCenter™ Brackets and UltraCenter™ Vessels. UltraCenter™ upper and lower shafts are interchangeable. These shafts are another QLA innovative dissolution component developed to help achieve Enhanced Mechanical Calibration in accordance with the current ASTM standard. Dissolution instruments calibrated to this standard do not need further calibration with USP calibrator tablets.

| Part No. | Description | OEM Ref |
|--------------|---|---------|
| ASTMSHT-13 | UltraCenter Precision Tapered 14.5" (370mm) Upper Spin Shaft, 316 SS, Serialized (when fully assembled) | QLA |
| ASTMSHT-15 | UltraCenter Precision Tapered 15" (380mm) Upper Spin Shaft, 316 SS, Serialized (when fully assembled) | QLA |
| ASTMSHT-16 | UltraCenter Precision Tapered 16" (405mm) Upper Spin Shaft, 316 SS, Serialized (when fully assembled) | QLA |
| ASTMSHT-16.5 | UltraCenter Precision Tapered 16.5" (420mm) Upper Spin Shaft, 316 SS, Serialized (when fully assembled) | QLA |
| ASTMSHT-19 | UltraCenter Precision Tapered 19" (480mm) Upper Spin Shaft, 316 SS, Serialized (when fully assembled) | QLA |
| ASTMSHT-21 | UltraCenter Precision Tapered 21" (535mm) Upper Spin Shaft, 316 SS, Serialized (when fully assembled) | QLA |
| ASTMSHT-24 | UltraCenter Precision Tapered 24" (610mm) Upper Spin Shaft, 316 SS, Serialized (when fully assembled) | QLA |
| SPNSK-ASTM | UltraCenter Precision Tapered Spin Basket, Spring Clip Style, 316 SS, Serialized | QLA |
| SPNEPD-ASTM | UltraCenter Precision Tapered Spin Paddle, Electropolished 316 SS, Serialized | QLA |
| SPNNPD-ASTM | UltraCenter Precision Tapered Spin Paddle, PTFE Coated over 316 SS, Serialized | QLA |
| SPNTPD-ASTM | UltraCenter Precision Tapered Spin Paddle, Solid Molded Fluoropolymer, One Piece Design, Serialized | QLA |



CLOSE-UP OF PRECISION TAPERED SHAFT



SPIN PADDLES AND BASKET SHAFT

UPPER SPIN SHAFTS

CAPSULE SINKERS

THE SINKER

Floating tablets rarely dissolve at a reproducible rate. Using a sinker in Apparatus 2 fixes the tablet to a certain point and aids reproducibility. Sinkers can also be useful where tablets may stick to the sides of the vessel.

USP 711 States: "A small, loose piece of non-reactive material such as not more than a few turns of wire helix may be attached to dosage units that would otherwise float. Other validated sinker devices may be used."

Once a sinker design is selected for a particular application, the dimensions and drawings should be recorded to ensure uniformity in the procedure.

KEY CONSIDERATIONS

Inevitably, home-made sinkers tend not to be reproducible and so commercially available sinkers are quite popular. The choice of sinker will depend on the tablet or capsule.

General Guidelines:

- **Sinker Size** — The sinker should have minimal surface contact with the tablet as this can affect the dissolution rate. Sinkers are available in different sizes to accommodate most capsule/tablet dimensions. See the sinker and capsule guides on pages 18 – 19.
- **Sinker Weight** — Should be heavy enough to ensure that the tablet sinks to the bottom of the vessel and doesn't move for the duration of the test.
- **PTFE Coated Sinkers** — Can be used where there may be a reaction between steel and the tablet. They also work well with magnetic retrievers.
- **Uncoated** — 316 stainless steel sinkers are more durable than coated sinkers.
- **Basket Sinkers** — Ideal for coin shaped tablets but care should be taken that the outer coating of the tablet does not clog the mesh.
- **Wire Spirals** — Should be as wide as practically possible to avoid clogging which would affect the dissolution rate.

OEM Key

- A** AGILENT
- S** SOTAX

PRONGED SINKERS

| Part No. | Description | OEM Ref |
|-----------|--|------------------|
| CAPWHT-VK | 3 Pronged Capsule Sinker, Plastic | 12-3050 A |
| MAGWHT-VK | 3 Pronged Capsule Sinker with Magnetic Legs, Plastic | 12-3056 A |
| CAPWHT-SV | 3 Pronged Capsule Sinker, 316 SS | QLA |



CAPWHT-VK,
MAGWHT-VK



CAPWHT-SV

BASKET SINKERS

| Part No. | Description | OEM Ref |
|--------------|---|------------------|
| CUSBSK-JP | Japanese Pharmacopeia Basket Sinker, 316 SS (same dimensions as shown in USP) | 12-3070 A |
| CUSBSK-JPMAG | Magnetic Japanese Basket Sinker, 316 SS (same dimensions as shown in USP) | QLA |
| CUSBSK-ALF | Alfuzosin Hydrochloride Cylinder Sinker, 316 SS | QLA |
| BSK008-01 | 8 Mesh Basket Sinker, 316 SS, 1.06" (26.9mm) L x .62" (15.7mm) W capacity | QLA |
| BSK008-JP | 8 Mesh Basket Sinker, 316 SS, .90" (22.9mm) L x .51" (12.9mm) W capacity | QLA |
| SNK008-VK | 8 Mesh Sinker Basket with Lid, 316 SS | 12-3062 A |
| SNK010-VK | 10 Mesh Sinker Basket with Lid, 316 SS | 12-3060 A |
| SNK020-VK | 20 Mesh Sinker Basket with Lid, 316 SS | 12-3063 A |
| SNK040-VK | 40 Mesh Sinker Basket with Lid, 316 SS | 12-3064 A |
| SNK080-VK | 80 Mesh Sinker Basket with Lid, 316 SS | QLA |



CUSBSK-JP,
CUSBSK-JPMAG

CUSBSK-ALF

BSK008-01

BSK008-JP



SNK008-VK



SNK010-VK



SNK040-VK

A QLA PERFECTED PRODUCT! QLA manufactures Japanese Sinker Baskets in strict conformance to USP and also offers a magnetic version for automatic retrieval systems. QLA's Japanese Sinker Baskets are made with extreme precision and offer coil spacing and vertical wire placement unmatched in accuracy by any other dissolution accessories manufacturer.

SPIRAL SINKERS

| Part No. | Description | OEM Ref |
|-------------|---|--|
| CAPWHT-2S | Spiral Capsule Sinkers, 316 SS, .84" (21.3mm) L x .37" (9.4mm) W capacity, 8.5 coils | QLA |
| CAPWHT-02 | Spiral Capsule Sinkers, PTFE Coated Music Wire, .84" (21.3mm) L x .37" (9.4mm) W capacity, 8.5 coils | QLA |
| CAPWHT-4S | Spiral Capsule Sinkers, 316 SS, .84" (21.3mm) L x .385" (9.8mm) W capacity, 5 coils | QLA |
| CAPWHT-04 | Spiral Capsule Sinkers, PTFE Coated Music Wire, .84" (21.3mm) L x .385" (9.8mm) W capacity, 5 coils | QLA |
| CAPWHT-LG | Spiral Capsule Sinkers, PTFE Coated Music Wire, 1.10" (27.9mm) L x .41" (10.4mm) W capacity, 6.5 coils | QLA |
| CAPWHT-XL | Spiral Capsule Sinkers, PTFE Coated Music Wire, 1.15" (29.2mm) L x .465" (11.8mm) W capacity, 5.5 coils | QLA |
| CAPWHT-XLS | Spiral Capsule Sinkers, 316 SS, 1.15" (29.2mm) L x .465" (11.8mm) W capacity, 5.5 coils | QLA |
| CAPWHT-XLSS | Spiral Capsule Sinkers, 316 SS, .885" (22.5mm) L x .465" (11.8mm) W capacity, 3 coils | QLA |
| CAPWHT-XS | Spiral Capsule Sinkers, 316 SS, .885" (22.5mm) L x .575" (14.6mm) W capacity, 8.5 coils | QLA |
| CAPWST-15 | Spring Style Capsule Sinkers, 316 SS, .61" (15.5mm) L x .19" (5mm) W capacity | 8280  |
| CAPWST-18 | Spring Style Capsule Sinkers, 316 SS, .71" (18mm) L x .24" (6mm) W capacity | 7346  |
| CAPWST-19 | Spring Style Capsule Sinkers, 316 SS, .76" (19.3mm) L x .28" (7mm) W capacity | 8283  |
| CAPWST-23 | Spring Style Capsule Sinkers, 316 SS, .91" (23mm) L x .31" (8mm) W capacity | 6881  |
| CAPWST-31 | Spring Style Capsule Sinkers, 316 SS, 1.22" (31mm) L x .43" (11mm) W capacity | 7349  |
| CAPWHT-TR | Time Release Capsule Sinkers, 316 SS | QLA |
| CAPWHT-PC | Breath Film Sinkers, 316 SS | QLA |



CAPWHT-2S



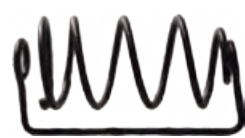
CAPWHT-02



CAPWHT-4S



CAPWHT-04



CAPWHT-LG



CAPWHT-XL



CAPWHT-XLS



CAPWHT-XLSS



CAPWHT-XS



CAPWST-31



CAPWHT-TR



CAPWHT-PC



CAPWST-15



CAPWST-18




CAPWST-19



CAPWST-23

TYPE 316 STAINLESS STEEL WIRE


This wire is ideal for winding your own capsule sinkers, especially if you have non-standard size capsules.

| Part No. | Description | OEM Ref |
|-----------|--|---|
| WIRESK-VK | 316 SS Sinker Wire, .032" (.81mm) dia., 50' (15m) Roll | 12-3000  |



O-RING SINKERS

O-ring sinkers feature an expandable rubber ring. This lets the capsule swell while still maintaining adequate sinking.

| Part No. | Description | OEM Ref |
|------------|------------------------|--|
| CAPWHT-S99 | O-Ring Sinkers, 316 SS | 8399  |



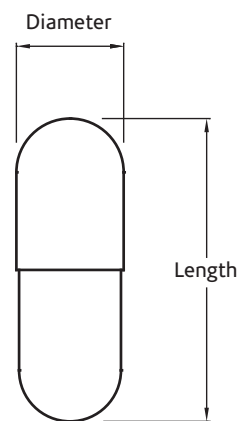
CAPWHT-S99

SINKER TYPE

| | PART NUMBER | STYLE | MATERIAL | COATING | INSIDE DIAMETER | |
|-----------|-------------|-----------------|------------|---------|-----------------|------|
| | | | | | (inches) | (mm) |
| BASKET | CUSBSK-JP | Basket, JP | 316 SS | - | 0.470 | 11.9 |
| | BSK008-01 | Basket, 8 Mesh | 316 SS | - | 0.620 | 15.7 |
| | BSK008-JP | Basket, 8 Mesh | 316 SS | - | 0.510 | 12.9 |
| | SNK008-VK | Basket, 8 Mesh | 316 SS | - | 0.795 | 20.2 |
| | SNK010-VK | Basket, 10 Mesh | 316 SS | - | 0.795 | 20.2 |
| | SNK020-VK | Basket, 20 Mesh | 316 SS | - | 0.795 | 20.2 |
| | SNK040-VK | Basket, 40 Mesh | 316 SS | - | 0.795 | 20.2 |
| | SNK080-VK | Basket, 80 Mesh | 316 SS | - | 0.795 | 20.2 |
| PRONGED | CAPWHT-VK | 3 Prong | Nylon / PP | - | 0.375 | 9.5 |
| | MAGWHT-VK | 3 Prong | Nylon / PP | - | 0.375 | 9.5 |
| | CAPWHT-SV | 3 Prong | 316 SS | - | 0.275 | 7.0 |
| O-RING | CAPWHT-S99 | O-Ring | 316 SS | - | 0.230 | 5.8 |
| SPIRAL | CAPWHT-TR | Butterfly | 316 SS | - | 0.211 | 5.4 |
| | CAPWHT-PC | Strip Film | 316 SS | - | 0.425 | 10.8 |
| | CAPWST-15 | Helix | 316 SS | - | 0.197 | 5.0 |
| | CAPWHT-04 | Helix | Music Wire | PTFE | 0.385 | 9.8 |
| | CAPWHT-4S | Helix | 316 SS | - | 0.385 | 9.8 |
| | CAPWHT-LG | Helix | Music Wire | PTFE | 0.410 | 10.4 |
| | CAPWHT-XL | Helix | Music Wire | PTFE | 0.465 | 11.8 |
| | CAPWHT-XLS | Helix | 316 SS | - | 0.465 | 11.8 |
| | CAPWHT-XLSS | Helix | 316 SS | - | 0.465 | 11.8 |
| | CAPWST-18 | Helix | 316 SS | - | 0.236 | 6.0 |
| | CAPWST-19 | Helix | 316 SS | - | 0.276 | 7.0 |
| | CAPWHT-2S | Helix | 316 SS | - | 0.370 | 9.4 |
| | CAPWHT-02 | Helix | Music Wire | PTFE | 0.370 | 9.4 |
| | CAPWHT-XS | Helix | 316 SS | - | 0.575 | 14.6 |
| | CAPWST-23 | Helix | 316 SS | - | 0.315 | 8.0 |
| CAPWST-31 | Helix | 316 SS | - | 0.433 | 11.0 | |
| WIRE | WIRESK-VK | Sinker Wire 50' | 316 SS | - | - | - |

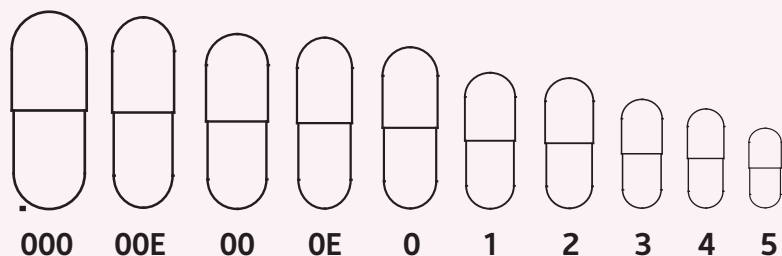
CAPSULES

| CAPSULE SIZE | LENGTH | | DIAMETER | |
|--------------|----------|------|----------|------|
| | (inches) | (mm) | (inches) | (mm) |
| 000 | 1.029 | 26.1 | 0.390 | 9.91 |
| 00E | 1.012 | 25.7 | 0.336 | 8.53 |
| 00 | 0.917 | 23.3 | 0.336 | 8.53 |
| 0E | 0.909 | 23.1 | 0.301 | 7.65 |
| 0 | 0.854 | 21.7 | 0.301 | 7.65 |
| 1 | 0.765 | 19.4 | 0.272 | 6.91 |
| 2 | 0.709 | 18.0 | 0.250 | 6.35 |
| 3 | 0.626 | 15.9 | 0.229 | 5.83 |
| 4 | 0.563 | 14.3 | 0.209 | 5.32 |
| 5 | 0.437 | 11.1 | 0.193 | 4.91 |



| INSIDE LENGTH | | WIRE DIAMETER | | MAX CAPSULE SIZE | NO. OF COILS |
|---------------|------|---------------|------|------------------|--------------|
| (inches) | (mm) | (inches) | (mm) | | |
| 1.000 | 25.4 | 0.040 | 1.00 | 00 | - |
| 1.060 | 26.9 | 0.028 | 0.71 | 000 | - |
| 0.900 | 22.9 | 0.028 | 0.71 | 1 | - |
| 0.500 | 12.7 | 0.028 | 0.71 | 00 | - |
| 0.500 | 12.7 | 0.025 | 0.64 | 00 | - |
| 0.500 | 12.7 | 0.016 | 0.41 | 00 | - |
| 0.500 | 12.7 | 0.010 | 0.25 | 00 | - |
| 0.500 | 12.7 | 0.007 | 0.18 | 00 | - |
| 1.000 | 25.4 | - | - | 1 (min=3) | - |
| 1.000 | 25.4 | - | - | 1 (min=3) | - |
| 1.000 | 25.4 | - | - | 1 (min=3) | - |
| 0.900 | 22.9 | - | - | 0 | - |
| 0.375 | 9.5 | 0.030 | 0.76 | - | - |
| 0.425 | 10.8 | 0.037 | 0.94 | - | - |
| 0.610 | 15.5 | 0.016 | 0.41 | 5 | 6 |
| 0.840 | 21.3 | 0.043 | 1.09 | 0 | 5 |
| 0.840 | 21.3 | 0.047 | 1.19 | 0 | 5 |
| 1.100 | 27.9 | 0.043 | 1.09 | 000 | 6.5 |
| 1.150 | 29.2 | 0.043 | 1.09 | 000 | 5.5 |
| 1.150 | 29.2 | 0.043 | 1.09 | 000 | 5.5 |
| 0.885 | 22.5 | 0.043 | 1.09 | Special | 3 |
| 0.709 | 18 | 0.016 | 0.41 | 3 | 8 |
| 0.760 | 19.3 | 0.016 | 0.41 | 2 | 8 |
| 0.840 | 21.3 | 0.043 | 1.09 | 0 | 8.5 |
| 0.840 | 21.3 | 0.047 | 1.19 | 0 | 8.5 |
| 0.885 | 22.5 | 0.047 | 1.19 | Special | 8.5 |
| 0.905 | 23 | 0.016 | 0.41 | 0 | 9 |
| 1.220 | 31 | 0.031 | 0.78 | 000 | 11 |
| - | - | 0.032 | 0.81 | - | - |

CAPSULES Shown at Actual Size



Custom Design and Fabrication

QLA provides design and fabrication services including custom sinkers, to any specification.

We can advise you on any project that comes up.

Please speak with your QLA Sales Rep about your requirements.

VESSELS

THE VESSEL

Good dissolution vessels are critical in obtaining correct and reproducible results and are sometimes overlooked as a key element in the dissolution test.

All vessels meet the physical dimensions of the USP and have a hemispherical bottom which means that they should be perfectly rounded with no obvious defects of the glass on the inside. Wall thicknesses should be even and reproducible.

Although the USP states the dimensions for vessels, the tolerances are actually quite wide, meaning vessels associated with various dissolution baths are not dimensionally the same. Replacing a vessel with one not specifically designed for the instrument could impair vessel centering and paddle height. Also larger or smaller inside diameters can affect vessel hydrodynamics.

Note: QLA vessels are acid etched, or laser marked on plastic rim, with a unique serial number and come with a Certificate of Conformance (COC), where applicable.

IMPROVE YOUR DISSOLUTION RESULTS WITH QLA ULTRACENTER™ PRECISION VESSELS



UltraCenter™ Precision Vessels are available in clear and amber, Glass Rim, Plastic Rim and PEAK versions. QLA's molded PEAK vessels are Patent Pending.

Small variations in vessel dimensions have been shown by the USP and others to contribute to excessive changes in dissolution rates. UltraCenter™ Precision Vessels are produced using a unique molded process which provides a precise and consistent inside diameter and spherical radius resulting in a more reproducible dissolution profile. They are compatible with most dissolution baths and have been adopted as a standard by many major pharmaceutical companies.

When used in conjunction with QLA's AccuBracket™, your lab will achieve the highest level of vessel centering accuracy available. See MISC DISSOLUTION ACCESSORIES Section, page 43.

QLA Certificates

COC

All serialized QLA parts — like baskets, paddles and vessels — come with a Certificate of Conformance (COC) at no extra charge.

COA

Certificate of Analysis (COA) is available for all QLA serialized parts — like baskets, paddles and vessels — for an additional fee.



KEY CONSIDERATIONS

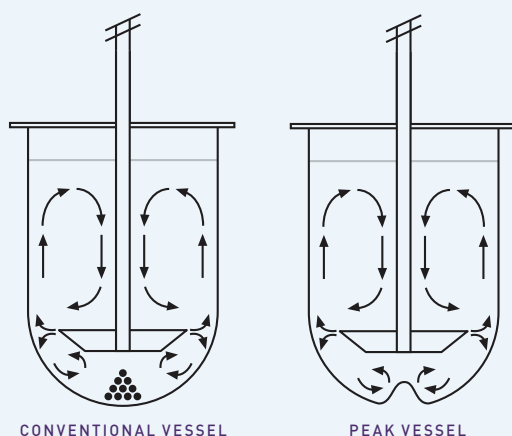
Glass Vessels benefit from good thermal conductivity (it is often necessary to have the temperature of the water bath as much as 2°C higher than the analysis temperature when using plastic vessels). Another advantage of using glass vessels is their high resistance to scratching, which means they have to be replaced less frequently.

Amber Vessels can be used if light sensitive compounds are being tested. They are available in glass and plastic.

Plastic Vessels are very reproducible because they are made from a mold rather than hand formed. They also have feet which allows them to stand upright independently. The biggest disadvantage is that plastic is very prone to scratching and cracking, requiring frequent replacement. Plastic vessels have the advantage over glass in that they are very reproducible. The vessel is made from a mold rather than hand-formed. This reduces possible errors in setting the paddle height and centering and can give very reproducible results. Another advantage of plastic vessels is that they have feet so they can stand upright independently.

Plastic Rim Vessels were developed to help minimize glass rim breakage that can occur during normal laboratory use. They are produced by a unique proprietary bonding method using high impact plastic which eliminates rim breakage and safety concerns. All QLA Plastic Rim Vessels are dishwasher safe. Plastic Rim Vessels come in both Standard and UltraCenter™ Precision versions. Serial numbers are laser marked on the plastic rim only.

Peak Vessels are designed to prevent cone formation at the base of the vessel. An undesirable poorly stirred cone shaped region can develop under the paddle during USP Apparatus 2 dissolution tests. Peak vessels have a cone shape molded into the bottom of the vessel that improves the hydrodynamics around the dosage form and leads to more reproducible dissolution rates. The peak effectively displaces the unstirred cone, forcing the material tested into the region of appropriate hydrodynamics, where all surfaces of the dosage are constantly and uniformly exposed to the moving medium. Peak vessels do not comply with USP specifications and cannot be substituted in existing applications.



CONVENTIONAL VESSEL

PEAK VESSEL



GLASS VESSEL

AMBER VESSEL



PLASTIC VESSEL



PLASTIC RIM VESSEL



PEAK VESSEL

QLA's UltraCenter™ Precision PEAK vessels are Patent Pending.

AGILENT COMPATIBLE VESSELS
 (INCLUDES LEGACY VANKEL)

UltraCenter™ Precision Vessels

| Part No. | Description | OEM Ref |
|----------------|---|---------|
| ASTM900-UN | 1000mL Clear UltraCenter Precision Glass Vessel, Serialized | QLA |
| ASTM900-UNAM | 1000mL Amber UltraCenter Precision Glass Vessel, Serialized | QLA |
| ASTM900-UNP | 1000mL Clear UltraCenter Precision Glass Vessel w/Plastic Rim, Serialized | QLA |
| ASTM900-AUNP | 1000mL Amber UltraCenter Precision Glass Vessel w/Plastic Rim, Serialized | QLA |
| ASTM900-VK | 1000mL Clear UltraCenter Precision Glass Vessel for TruCenter, No Collar, Serialized | QLA |
| ASTM900-AVK | 1000mL Amber UltraCenter Precision Glass Vessel for TruCenter, No Collar, Serialized | QLA |
| ASTM900-70XDS | 1000mL Clear UltraCenter Precision Glass Vessel w/Plastic Rim for 708/709-DS, Serialized | QLA |
| ASTM900-A70XDS | 1000mL Amber UltraCenter Precision Glass Vessel w/Plastic Rim for 708/709-DS, Serialized | QLA |
| ASTM9PK-UNP | 1000mL Clear UltraCenter Precision Glass PEAK Vessel w/Plastic Rim, Serialized | QLA |
| ASTM9PK-AUNP | 1000mL Amber UltraCenter Precision Glass PEAK Vessel w/Plastic Rim, Serialized | QLA |
| ASTM9PK-70XDS | 1000mL Clear UltraCenter Precision Glass PEAK Vessel w/Plastic Rim for 708/709-DS, Serialized | QLA |
| ASTM9PK-A70XDS | 1000mL Amber UltraCenter Precision Glass PEAK Vessel w/Plastic Rim for 708/709-DS, Serialized | QLA |

Standard Vessels

| Part No. | Description | OEM Ref |
|-----------|---------------------------------------|---------|
| GLA100-VK | 100mL Clear Glass Vessel | 12-5040 |
| GLA200-VK | 200mL Clear Glass Vessel | 12-5050 |
| GLA200-AV | 200mL Amber Glass Vessel | 12-5051 |
| GLA500-01 | 500mL Clear Glass Vessel | 12-5060 |
| GLA500-AV | 500mL Amber Glass Vessel | QLA |
| GLA900-01 | 1000mL Clear Glass Vessel, Serialized | 12-5000 |

Standard Vessels: (Agilent) continued.

| Part No. | Description | OEM Ref |
|---------------|--|---------|
| GLA900-AV | 1000mL Amber Glass Vessel, Serialized | 12-5010 |
| GLA900-UNP | 1000mL Clear Glass Vessel w/Plastic Rim, Serialized | QLA |
| GLA900-AUNP | 1000mL Amber Glass Vessel w/Plastic Rim, Serialized | QLA |
| GLA900-VK | 1000mL Clear Glass Vessel for TruCenter, No Collar, Serialized | 12-5035 |
| GLA900-AVK | 1000mL Amber Glass Vessel for TruCenter, No Collar, Serialized | 12-5120 |
| GLA900-70XDS | 1000mL Clear Glass Vessel w/Plastic Rim for 708/709-DS, Serialized | 12-5149 |
| GLA900-A70XDS | 1000mL Amber Glass Vessel w/Plastic Rim for 708/709-DS, Serialized | 12-5152 |
| GLA9PK-01 | 1000mL Clear Glass PEAK Vessel, Serialized | 12-5500 |
| GLA9PK-AV | 1000mL Amber Glass PEAK Vessel, Serialized | 12-5505 |
| GLA9PK-UNP | 1000mL Clear Glass PEAK Vessel w/Plastic Rim, Serialized | QLA |
| GLA9PK-AUNP | 1000mL Amber Glass PEAK Vessel w/Plastic Rim, Serialized | QLA |
| GLA9PK-VK | 1000mL Clear Glass PEAK Vessel for TruCenter, No Collar, Serialized | 12-5125 |
| GLA9PK-70XDS | 1000mL Clear Glass PEAK Vessel w/Plastic Rim for 708/709-DS, Serialized | 12-5153 |
| GLA9PK-A70XDS | 1000mL Amber Glass PEAK Vessel w/Plastic Rim for 708/709-DS, Serialized | 12-5154 |
| PLA900-01 | 1000mL Clear Plastic Vessel | 12-5200 |
| PLA900-AV | 1000mL Amber Plastic Vessel | QLA |
| GLA02K-01 | 2000ml Clear Glass Vessel, Serialized | 12-5070 |
| ACCUBKT-VK | AccuCenter Bracket for Legacy VanKel and Agilent 708-DS baths | QLA |
| EZLBKT-01 | Vessel Centering Bracket with 6 Replaceable Pins for Legacy VanKel baths | 12-6050 |
| EZLKIT-01 | Vessel Centering Bracket Repair Kit (Set/12 Pins) | QLA |
| EZLPEG-01 | Vessel Centering Bracket Peg | 12-6065 |
| KNOB-708 | Vessel Clamp Knob for 708-DS baths | QLA |



QLA UltraCenter™ Precision and Standard Vessels are available in clear and amber, Glass Rim, Plastic Rim and PEAK versions. QLA's molded PEAK vessels are Patent Pending.

DISTEK COMPATIBLE VESSELS

UltraCenter™ Precision Vessels

| Part No. | Description | OEM Ref |
|--------------|--|---------|
| ASTM900-UN | 1000mL Clear UltraCenter Precision Glass Vessel, Serialized | QLA |
| ASTM900-UNAM | 1000mL Amber UltraCenter Precision Vessel, Serialized | QLA |
| ASTM900-UNP | 1000mL Clear UltraCenter Precision Glass Vessel w/Plastic Rim, Serialized | QLA |
| ASTM900-AUNP | 1000mL Amber UltraCenter Precision Glass Vessel w/Plastic Rim, Serialized | QLA |
| ASTM9PK-UNP | 1000mL Clear UltraCenter Precision Glass PEAK Vessel w/Plastic Rim, Serialized | QLA |
| ASTM9PK-AUNP | 1000mL Amber UltraCenter Precision Glass PEAK Vessel w/Plastic Rim, Serialized | QLA |

Standard Vessels

| Part No. | Description | OEM Ref |
|-------------|--|-----------|
| GLA100-DK | 100mL Clear Glass Vessel | QLA |
| GLA100-AD | 100mL Amber Glass Vessel | QLA |
| GLA200-DK | 200mL Clear Glass Vessel | QLA |
| GLA500-DK | 500mL Clear Glass Vessel, No Ring | QLA |
| GLA500-AD | 500mL Amber Glass Vessel, No Ring | QLA |
| GLA900-DK | 1000mL Clear Glass Vessel, No Ring, Serialized | QLA |
| GLA900-DKP | 1000mL Clear Premier Glass Vessel, No Ring, Serialized | 3010-0096 |
| GLA900-AD | 1000mL Amber Glass Vessel, No Ring, Serialized | QLA |
| GLA9CR-DK | 1000mL Clear Glass Vessel w/Acculign Ring, Serialized | 3010-0093 |
| GLA9CR-AD | 1000mL Amber Glass Vessel w/Acculign Ring, Serialized | 3010-0023 |
| GLA900-UNP | 1000mL Clear Glass Vessel w/Plastic Rim, Serialized | QLA |
| GLA900-AUNP | 1000mL Amber Glass Vessel w/Plastic Rim, Serialized | QLA |
| GLA9PK-DK | 1000mL Clear Glass PEAK Vessel w/Acculign Ring, Serialized | 3010-0550 |
| GLA9PK-UNP | 1000mL Clear Glass PEAK Vessel w/Plastic Rim, Serialized | QLA |
| GLA9PK-AUNP | 1000mL Amber Glass PEAK Vessel w/Plastic Rim, Serialized | QLA |
| PLA900-DK | 1000mL Clear Plastic Vessel | 3350-0095 |
| PLA900-AD | 1000mL Amber Plastic Vessel | QLA |
| GLA02K-DK | 2000mL Clear Glass Vessel, No Ring, Serialized | 3010-0285 |
| GLA02K-AD | 2000mL Amber Glass Vessel, No Ring, Serialized | 3020-0327 |

Standard Vessels: (Distek) continued.

| Part No. | Description | OEM Ref |
|------------------|---|-----------|
| ACCUBKT-DK | AccuCenter Bracket for Distek 2100 Series baths | QLA |
| ACCUBKT-DK2500 | AccuCenter Bracket for Distek 2500 Series baths | QLA |
| ACCUBKT-IKIT2500 | AccuCenter Bracket Installation Kit for Distek 2500 baths | QLA |
| RING01-DK | Acculign Vessel Centering Ring for Distek | 3350-0096 |
| VSCLIP-DK | Vessel Retainer Assembly for Distek 2100 and 6300 baths | 2821-0257 |

ERWEKA COMPATIBLE VESSELS

UltraCenter™ Precision Vessels

Must use with QLA Part# RING-UCEW.

| Part No. | Description | OEM Ref |
|--------------|--|---------|
| ASTM900-UN | 1000mL Clear UltraCenter Precision Glass Vessel, Serialized | QLA |
| ASTM900-UNAM | 1000mL Amber UltraCenter Precision Vessel, Serialized | QLA |
| ASTM900-UNP | 1000mL Clear UltraCenter Precision Glass Vessel w/Plastic Rim, Serialized | QLA |
| ASTM900-AUNP | 1000mL Amber UltraCenter Precision Glass Vessel w/Plastic Rim, Serialized | QLA |
| ASTM9PK-UNP | 1000mL Clear UltraCenter Precision Glass PEAK Vessel w/Plastic Rim, Serialized | QLA |
| ASTM9PK-AUNP | 1000mL Amber UltraCenter Precision Glass PEAK Vessel w/Plastic Rim, Serialized | QLA |

Standard Vessels

| Part No. | Description | OEM Ref |
|------------|--|-------------|
| GLA900-EW | 1000mL Clear Glass Vessel, Serialized | 80-000-1002 |
| GLA900-AEW | 1000mL Amber Glass Vessel, Serialized | 80-000-1004 |
| PLA900-EW | 1000mL Clear Plastic Vessel | QLA |
| GLA02K-EW | 2000mL Clear Glass Vessel, Serialized | 80-000-2002 |
| RING-UCEW | Vessel Hold Down Ring for UltraCenter Vessels on Erweka DT baths | QLA |

HANSON

COMPATIBLE VESSELS

UltraCenter™ Precision Vessels for SR8-Plus

| Part No. | Description | OEM Ref |
|--------------|--|---------|
| ASTM900-UN | 1000mL Clear UltraCenter Precision Glass Vessel, Serialized | QLA |
| ASTM900-UNAM | 1000mL Amber UltraCenter Precision Glass Vessel, Serialized | QLA |
| ASTM900-UNP | 1000mL Clear UltraCenter Precision Glass Vessel w/Plastic Rim, Serialized | QLA |
| ASTM900-AUNP | 1000mL Amber UltraCenter Precision Glass Vessel w/Plastic Rim, Serialized | QLA |
| ASTM9PK-UNP | 1000mL Clear UltraCenter Precision Glass PEAK Vessel w/Plastic Rim, Serialized | QLA |
| ASTM9PK-AUNP | 1000mL Amber UltraCenter Precision Glass PEAK Vessel w/Plastic Rim, Serialized | QLA |

Standard Vessels for SR8-Plus

| Part No. | Description | OEM Ref |
|-------------|---|------------|
| GLA500-HR | 500mL Clear Glass Vessel | QLA |
| GLA900-HR | 1000mL Clear Glass Vessel, Serialized | 72-600-510 |
| GLA900-AH | 1000mL Amber Glass Vessel, Serialized | 72-600-556 |
| GLA900-UNP | 1000mL Clear Glass Vessel w/Plastic Rim, Serialized | QLA |
| GLA900-AUNP | 1000mL Amber Glass Vessel w/Plastic Rim, Serialized | QLA |
| GLA9PK-HR | 1000mL Clear Glass PEAK Vessel w/ Ring, Serialized | 95-590-047 |
| GLA9PK-AH | 1000mL Amber Glass PEAK Vessel w/ Ring, Serialized | 95-590-048 |
| GLA9PK-UNP | 1000mL Clear Glass PEAK Vessel w/ Plastic Rim, Serialized | QLA |
| GLA9PK-AUNP | 1000mL Amber Glass PEAK Vessel w/ Plastic Rim, Serialized | QLA |
| PLA900-HR | 1000mL Clear Plastic Vessel | 91-030-003 |
| PLA900-AH | 1000mL Amber Plastic Vessel | QLA |
| GLA02K-HR | 2000ml Clear Glass Vessel, Serialized | 72-600-509 |
| ACCUBKT-HR | AccuCenter Bracket for Hanson SR8-Plus baths | 73-101-519 |

UltraCenter™ Precision Vessels for Vision

| Part No. | Description | OEM Ref |
|------------|---|------------|
| 74-104-121 | 1000mL Clear UltraCenter Precision Glass Easi-Lock Vessel, Serialized | 74-104-121 |
| 74-104-122 | 1000mL Amber UltraCenter Precision Glass Easi-Lock Vessel, Serialized | 74-104-122 |

Standard Vessels for Vision

| Part No. | Description | OEM Ref |
|------------|--|------------|
| 74-104-101 | 1000mL Clear Glass Easi-Lock Vessel, Serialized | 74-104-101 |
| 74-104-102 | 1000mL Amber Glass Easi-Lock Vessel, Serialized | 74-104-102 |
| 74-104-131 | 1000mL Clear Glass PEAK Easi-Lock Vessel, Serialized | 74-104-131 |
| 74-104-132 | 1000mL Amber Glass PEAK Easi-Lock Vessel, Serialized | 74-104-132 |
| 74-104-111 | 2000mL Clear Glass Easi-Lock Vessel, Serialized | 74-104-111 |
| 74-104-112 | 2000mL Amber Glass Easi-Lock Vessel, Serialized | 74-104-112 |



QLA UltraCenter™ Precision and Standard Vessels are available in clear and amber, Glass Rim, Plastic Rim and PEAK versions. QLA's molded PEAK vessels are Patent Pending.

PHARMATEST COMPATIBLE VESSELS*

UltraCenter™ Precision Vessels: Contact your Sales Representative.

Standard Vessels *Vessels do not fit PTWS310.

| Part No. | Description | OEM Ref |
|------------|---------------------------------------|----------|
| GLA900-PT | 1000mL Clear Glass Vessel, Serialized | 303-5225 |
| GLA900-APT | 1000mL Amber Glass Vessel, Serialized | 303-5425 |
| PLA900-PT | 1000mL Clear Plastic Vessel | QLA |
| PLA900-AP | 1000mL Amber Plastic Vessel | QLA |

SOTAX COMPATIBLE VESSELS

UltraCenter™ Precision Vessels: Contact your Sales Representative.

Standard Vessels

| Part No. | Description | OEM Ref |
|------------|---------------------------------------|---------|
| GLA900-ST | 1000mL Clear Glass Vessel, Serialized | 2503 |
| GLA900-AST | 1000mL Amber Glass Vessel, Serialized | 2503-2 |

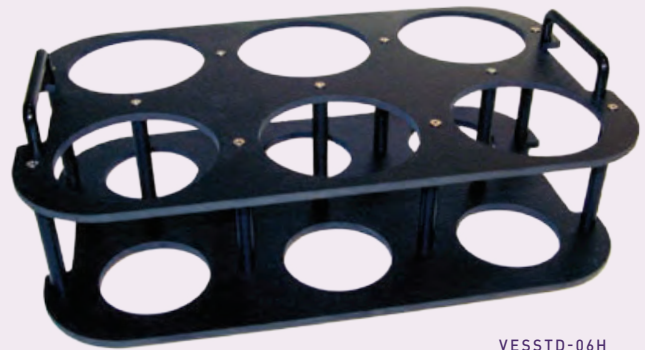
UNIVERSAL VESSEL STANDS

For the safe transportation and storage of vessels
 Due to their shape, dissolution vessels are difficult to hold securely. This can often result in scratched, chipped or even smashed vessels.

The noncorrosive rigid ABS plastic stands are available in 6 or 8 vessel capacities and can hold vessels from any dissolution bath manufacturer.

They can also be stacked together to save bench space and enable you to transport many vessels at a time.

| Part No. | Description | OEM Ref |
|------------|------------------------------------|---------|
| VESSTD-06H | 6 Position Vessel Stand, Universal | QLA |
| VESSTD-08H | 8 Position Vessel Stand, Universal | QLA |



VESSEL COVERS

THE VESSEL COVER

The loss of media due to evaporation can be considerable. Vessel Covers should reduce these problems and provide openings to accommodate cannulas and stoppers. Cover styles include all common one-piece and hinged covers, as well as a unique rotary configuration.

KEY CONSIDERATIONS

Evaporation Losses are reduced by using vessel covers with a minimal open area during the test. Slots and holes for temperature verification, sample introduction and sample collection should be closed when not in use. These losses are further reduced when using conical shaped low evaporation covers.

Cannulas Stoppers — Cannulas can be used with stoppers during manual sampling to ensure that the sample is always taken from the same depth.

Vessel covers must have the appropriate hole for the stopper (which is attached to the cannula) to sit in. The stopper and cannula must match the vessel cover type. See page 28 for sampling cannula and stoppers.

AGILENT COMPATIBLE VESSEL COVERS (INCLUDES LEGACY VANKEL)

| Part No. | Description | OEM Ref |
|----------------|--|---------|
| COVERV-00 | Low Evaporation Rotary Cover | QLA |
| COVERV-01 | Clear Cover with Paddle Slot | 12-6300 |
| COVERV-02 | Amber Cover with Paddle Slot | 12-6320 |
| COVERV-03 | Clear Solid Cover | 12-6330 |
| COVERV-04 | Clear Cover for Dosage Delivery Module | 12-6310 |
| COVERV-HG | Low Evaporation Clear Hinged Cover | QLA |
| COVERV-01SB | Clear Cover with Paddle Slot & Extra Hole for Stationary Basket | QLA |
| COVERV-LL | Low Evaporation Clear Cover, Conical Shape | 12-0469 |
| COVERV-LLHG | Low Evaporation Clear Hinged Cover, Conical Shape | 12-6328 |
| COVERV-LLSB | Low Evaporation Clear Cover for Stationary Baskets | QLA |
| COVERV-LLVS | Low Evaporation Clear Hinged Cover for TruCenter, Conical Shape | QLA |
| COVERV-LLVSB | Low Evaporation Clear Hinged Cover for TruCenter, Conical Shape & Extra Hole for Stationary Basket | QLA |
| COVERV-LLVSV | Low Evaporation Clear Hinged Cover for V-Series, Conical Shape | QLA |
| COVERV-708 | Clear Hinged Cover for Agilent 708/ 709-DS | QLA |
| COVERV-6K | Clear Cover for VK 600/6000 | QLA |
| ACCUCVR-LLV | Low Evaporation Clear Hinged Cover for ACCUBKT-VK & VK auto-sampler, Conical Shape | QLA |
| COVERD-01VKBKT | Clear Hinged Cover with Paddle Slot for ACCUBKT-VK & VK auto-sampler | QLA |



COVERV-00



COVERV-01



COVERV-02



COVERV-03



COVERV-04



COVERV-HG



COVERV-01SB



COVERV-LL



COVERV-LLHG



COVERV-LLVS



COVERV-LLSB



COVERV-LLVSB



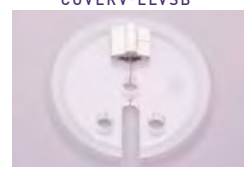
COVERV-LLVSV



COVERV-708



ACCUCVR-LLV



COVERD-01VKBKT

DISTEK COMPATIBLE VESSEL COVERS

| Part No. | Description | OEM Ref |
|------------|---|-----------|
| COVERD-00 | Low Evaporation Rotary Cover | QLA |
| COVERD-01 | Clear Hinged Cover | 2800-0889 |
| COVERD-02 | Amber Hinged Cover | QLA |
| COVERD-04 | Black Cast Acrylic Hinged Cover with Small Center Hole | 2800-0854 |
| COVERD-BK | Clear Hinged Cover with Large Center Hole for Easy Basket Access includes cap | 2800-0870 |
| COVERAD-BK | Amber Hinged Cover with Large Center Hole for Easy Basket Access includes cap | QLA |
| COVCAP-DK | Clear Cap for COVERD-BK cover | 2800-0055 |
| COVCAP-AD | Amber Cap for COVERAD-BK cover | QLA |
| COVERD-HG | Low Evaporation Clear Hinged Cover | QLA |
| COVDHG-SB | Clear Hinged Cover for Stationary Basket | 2800-0881 |
| COVPLG-7D | 7th Position Cover Plug | 3350-0109 |
| COVPLG-DK | Probe Hole Plugs for Distek Covers | 5720-4037 |
| HINGE-DK | Plastic Hinge for Distek Covers | 5560-6011 |



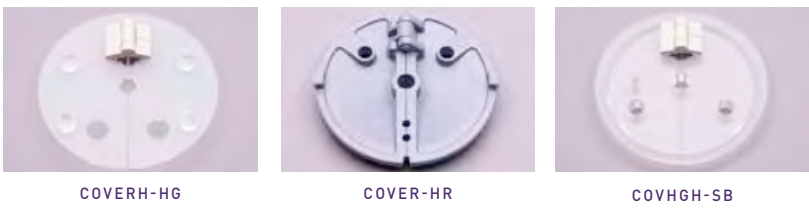
ERWEKA COMPATIBLE VESSEL COVERS

| Part No. | Description | OEM Ref |
|-----------|------------------------------------|---------|
| COVERD-EW | Low Evaporation Clear Hinged Cover | QLA |



HANSON COMPATIBLE VESSEL COVERS

| Part No. | Description | OEM Ref |
|-----------|--|------------|
| COVERH-00 | Low Evaporation Rotary Cover | 65-233-170 |
| COVERH-01 | Clear Cover with Paddle Slot | 72-500-215 |
| COVERH-02 | Gray Cover with Paddle Slot | 72-800-603 |
| COVERH-03 | Amber Cover with Paddle Slot | QLA |
| COVERH-04 | Clear Solid Cover | QLA |
| COVERH-HG | Low Evaporation Clear Hinged Cover | 95-590-046 |
| COVERH-LL | Low Evaporation Clear Cover | QLA |
| COVER-HR | Easi-Lock Vessel Cover for Vision | 74-104-151 |
| COVHGH-SB | Clear Hinged Cover for Stationary Basket | QLA |



SAMPLING CANNULA

THE CANNULA

Almost every dissolution test relies on samples being taken to produce a result. It is important that the sampling method does not adversely affect the accuracy of the dissolution test. Sampling errors are very common and are often the cause of erroneous results.

The USP defines the sampling point as: "A zone half way between the top of the media and top of the paddle or basket not less than 1cm from the vessel wall. The sampling position is critical but so too is the type of sampling cannula (also known as a probe) used."

KEY CONSIDERATIONS

Sampling Position — The sampling position is important particularly for tests with baskets as there can be a concentration profile between the bottom of the vessel and the stirring element. The sampling position is different for 500mL and 900mL tests. This can create problems for equipment that uses 'through the shaft' sampling.

Cannula Length — Cannula vary in length: 4.75" (120mm) is used for 900mL, 7.75" (195mm) is used for 500mL and extended lengths are normally used for "through the head sampling" whereby the cannula passes through the drive head of the dissolution bath.

Cannula Material — The cannula are made from either stainless steel or PEEK so that they do not absorb or interfere with the active ingredient.

Stoppers — Cannula can be used with stoppers during manual sampling to ensure that the sample is always taken from the same depth. Stoppers are attached to the cannula and sit in a hole in the vessel cover. If these are to be used then it is important to get the stopper and cannula to match the vessel cover type. The range of self-tightening stoppers can be installed and positioned without the need for tools such as screwdrivers. See below for more details.

SELECTING A SELF-TIGHTENING CANNULA STOPPER

Self-tightening cannula stoppers offer a convenient method of setting the cannula sampling position in accordance with USP 711.

Adjustable cannula stoppers are available for Distek, Hanson and Agilent/VanKel cannula.

Since there are numerous configurations of cannula and dissolution instruments in common use, the specific application should be reviewed to ensure correct stopper selection.

The two factors which determine the specific stopper choice are:

- 1) Cannula Outside Diameter (OD)
- 2) Stopper Outside Diameter (OD)

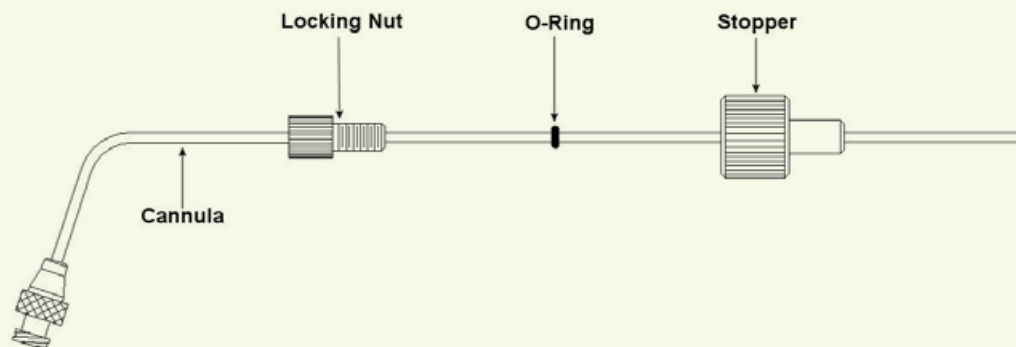
The part numbering system incorporates both cannula and stopper outside diameters.

| Cannula OD Inches | Manufacturer | Stopper OD Inches | Manufacturer |
|-------------------|----------------|-------------------|----------------|
| .065 (1/16") | Distek/Hanson | .31 | Agilent/VanKel |
| .078 | Agilent/VanKel | .44 | Hanson/Waters |
| .125 (1/8") | Hanson | .53 | Distek |
| .142 | Agilent/VanKel | | |

Part Numbering System:

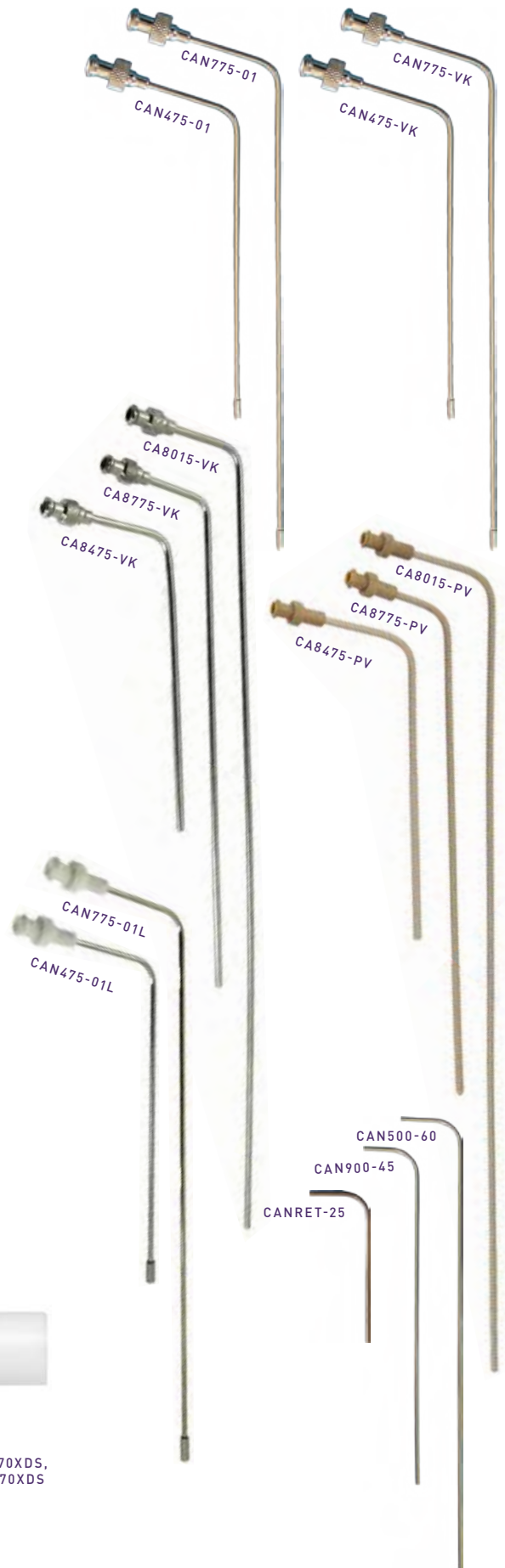
CANSTP - 065 - 53

Cannula OD ——— Stopper OD



Stopper Configurations: Common configurations are listed with the appropriate cannula. Configurations not listed are available by special order. Email qlasales@qla-llc.com or contact your QLA Sales Representative.

| Part No. | Description | OEM Ref |
|-----------------|---|---------|
| CAN475-01 | 4.75" (120mm) Bent 316 SS Cannula with SS Luer Lock & Tygon Tubing | 12-3200 |
| CAN775-01 | 7.75"(195mm) Bent 316 SS Cannula with SS Luer Lock & Tygon Tubing | 12-3210 |
| CAN475-VK | 4.75" (120mm) Bent 316 SS Cannula with SS Luer Lock & Perm SS Tip | QLA |
| CAN775-VK | 7.75" (195mm) Bent 316 SS Cannula with SS Luer Lock & Perm SS Tip | QLA |
| CA8475-VK | 4.75" (120mm) Bent 316 SS 1/8" (3.2mm) OD Cannula with SS Luer Lock | QLA |
| CA8775-VK | 7.75"(195mm) Bent 316 SS 1/8" (3.2mm) OD Cannula with SS Luer Lock | QLA |
| CA8015-VK | 15" (380mm) Bent 316 SS 1/8" (3.2mm) OD Cannula with SS Luer Lock | QLA |
| CA8475-PV | 4.75" (120mm) Bent PEEK 1/8" (3.2mm) OD Cannula with PEEK Luer Lock | QLA |
| CA8775-PV | 7.75"(195mm) Bent PEEK 1/8" (3.2mm) OD Cannula with PEEK Luer Lock | QLA |
| CA8015-PV | 15" (380mm) Bent PEEK 1/8" (3.2mm) OD Cannula with PEEK Luer Lock | QLA |
| CAN475-01L | 4.75" (120mm) Bent 316 SS Cannula with Kynar Luer Lock & Tygon Tubing | QLA |
| CAN775-01L | 7.75" (195mm) Bent 316 SS Cannula with Kynar Luer Lock & Tygon Tubing | QLA |
| CAN900-45 | 4.5" (115mm) Auto-Sampling Cannula for 900mL | 17-3300 |
| CAN500-60 | 6.5" (165mm) Auto-Sampling Cannula for 500mL | 17-3305 |
| CANRET-25 | 2.5" (65mm) Auto-Sampling Return Cannula | 17-3320 |
| PROBEX-VK | 500mL Cannula Extension Kit | 17-3306 |
| CANSTP-078-31 | VanKel Cannula Stopper for VanKel EaseAlign Cover | QLA |
| CANSTP-078-53 | VanKel Cannula Stopper for Distek Cover | QLA |
| CANSTP-142-31 | VanKel 1/8" (3.2mm) OD Cannula Stopper for VanKel EaseAlign Cover | QLA |
| CANSTP-142-53 | VanKel 1/8" (3.2mm) OD Cannula Stopper for Distek Cover | QLA |
| CANSTP082-70XDS | Adjustable Stopper for Agilent 708/709-DS (.082 OD) | QLA |
| CANSTP125-70XDS | Adjustable Stopper for Agilent 708/709-DS (.125 OD) | QLA |



PROBEX-VK



CANSTP-078-31,
CANSTP-142-31



CANSTP-078-53,
CANSTP-142-53



CANSTP082-70XDS,
CANSTP125-70XDS

DISTEK COMPATIBLE SAMPLING CANNULA

See opposite page for Distek Sampling Probes.

| Part No. | Description | OEM Ref |
|---------------|---|-----------|
| CAN500-DK | 500mL Standard Sampling Probe | 2910-0500 |
| CAN900-DK | 900mL Standard Sampling Probe | 2910-0900 |
| CAN01K-DK | 1000mL Standard Sampling Probe | 2910-1000 |
| CAN02K-DK | 2000mL Standard Sampling Probe | QLA |
| ORING-CANDK | Silicone O-Ring for DK Series Probe (Pack/12) | QLA |
| CAN500-DSH | 500mL Sampling Probe, Solid Housing | 2910-0506 |
| CAN900-DSH | 900mL Sampling Probe, Solid Housing | 2910-0906 |
| CAN01K-DSH | 1000mL Sampling Probe, Solid Housing | 2910-1006 |
| FILASY-DK | Inline Filter Housing Assembly – Standard DK Series | QLA |
| FILASY-DV | Inline Filter Housing Assembly – DV Series | QLA |
| CANRET-DK | Return Probe, Distek | 2910-0001 |
| CANFAE-DK | Female Luer Adapter & Elbow Assembly | QLA |
| CANFLA-DK | Female Luer Adapter | 5720-9059 |
| CANFLE-DK | Male to Female Elbow | 5720-9074 |
| THD90-065 | 90 degree Cannula Elbow | QLA |
| CANSTP-065-31 | Distek/Hanson 1/16" (1.6mm) OD Cannula Stopper for VanKel EaseAlign Cover | QLA |
| CANSTP-065-53 | Distek/Hanson 1/16" (1.6mm) OD Cannula Stopper for Distek Cover | QLA |



ERWEKA COMPATIBLE SAMPLING CANNULA

| Part No. | Description | OEM Ref |
|-----------|---|---------|
| CAN475-SH | 4.75" (120mm) Bent 316 SS 1/8" (3.2mm) OD Cannula with SS Luer Lock | QLA |
| CAN775-SH | 7.75" (195mm) Bent 316 SS 1/8" (3.2mm) OD Cannula with SS Luer Lock | QLA |
| CAN015-SH | 15" (380mm) Bent 316 SS 1/8" (3.2mm) OD Cannula with SS Luer Lock | QLA |
| CAN475-PH | 4.75" (120mm) Bent PEEK 1/8" (3.2mm) OD Cannula with PEEK Luer Lock | QLA |
| CAN775-PH | 7.75" (195mm) Bent PEEK 1/8" (3.2mm) OD Cannula with PEEK Luer Lock | QLA |
| CAN015-PH | 15" (380mm) Bent PEEK 1/8" (3.2mm) OD Cannula with PEEK Luer Lock | QLA |
| CANSTP-EW | Adjustable Cannula Stopper for Erweka | QLA |



DV SERIES HIGH CAPACITY SAMPLING PROBES (PATENT# US 7,850,919 B2)

Increased capacity for most brands of dissolution baths.

Available for 500mL, 900mL and 1000mL tests, the DV Series style sampling probe has a twist-lock housing which safely contains a standard Full Flow Filter (Agilent / QLA "01" style). This means that the same cannula filters can be used for different dissolution baths offering increased flexibility. The surface area of the Full Flow Filter is 7 times greater than the small filter discs traditionally used in the standard style resident sampling probe. It is also much easier to remove the larger Full Flow Filter from the housing after use.

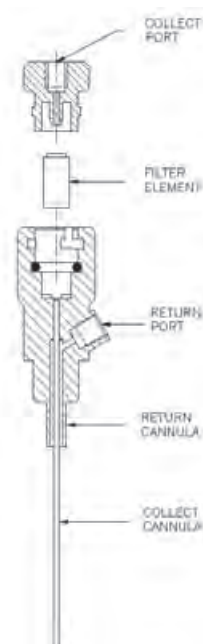
The Sampling Probe's thin low-volume stainless steel cannula can remain in the vessel throughout the dissolution test without affecting the dissolution result, removing the need for an automated cannula lift. The probe simply sits in the vessel cover and samples from the same position every time. It is the ideal solution for auto-samplers that use resident probes.

PROBE ASSEMBLY

| Part No. | Description | OEM Ref |
|-------------|---|---------|
| CAN500-DV | 500mL DV Series Sampling Probe uses QLA "01" Filters | QLA |
| CAN900-DV | 900mL DV Series Sampling Probe uses QLA "01" Filters | QLA |
| CAN01K-DV | 1000mL DV Series Sampling Probe uses QLA "01" Filters | QLA |
| CAN02K-DV | 2000mL DV Series Sampling Probe uses QLA "01" Filters | QLA |
| ORING-CANDV | Silicone O-Ring for DV Series Probe (Pack/12) | QLA |

HIGH CAPACITY FILTERS

| Part No. | Description | OEM Ref |
|-------------|---|---------|
| FIL001-01 | 1 Micron Full Flow Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL001-01-a | 1 Micron Full Flow Filters, UHMW Polyethylene (Pack/100) | QLA |
| FIL002-01 | 2 Micron Full Flow Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL002-01-a | 2 Micron Full Flow Filters, UHMW Polyethylene (Pack/100) | QLA |
| FIL010-01 | 10 Micron Full Flow Filters, UHMW Polyethylene (Jar/1000) | 17-4005 |
| FIL010-01-a | 10 Micron Full Flow Filters, UHMW Polyethylene (Pack/100) | 17-4000 |
| FIL020-01 | 20 Micron Full Flow Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL020-01-a | 20 Micron Full Flow Filters, UHMW Polyethylene (Pack/100) | QLA |
| FIL035-01 | 35 Micron Full Flow Filters, UHMW Polyethylene (Jar/1000) | 17-4015 |
| FIL035-01-a | 35 Micron Full Flow Filters, UHMW Polyethylene (Pack/100) | 17-4010 |
| FIL045-01 | 45 Micron Full Flow Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL045-01-a | 45 Micron Full Flow Filters, UHMW Polyethylene (Pack/100) | QLA |
| FIL070-01 | 70 Micron Full Flow Filters, UHMW Polyethylene (Jar/1000) | 17-4025 |
| FIL070-01-a | 70 Micron Full Flow Filters, UHMW Polyethylene (Pack/100) | 17-4020 |



DUAL DV SERIES HIGH CAPACITY SAMPLING PROBES

These probes offer the same features and benefits as the DV Series probes described above but with the addition of a return port. The return port provides a "return to vessel" path for Dissolution Protocols which require samples to be returned or Protocols which require media replacement. Since both the collect and return ports are integrated into a single housing only one hole in the vessel cover is used.

| Media Volume | Agilent/Vankel | Distek | Hanson |
|--------------|----------------|------------|------------|
| 500mL | CAN500-DVV | CAN500-DDV | CAN500-DHV |
| 900mL | CAN900-DVV | CAN900-DDV | CAN900-DHV |
| 1000mL | CAN01K-DVV | CAN01K-DDV | CAN01K-DHV |
| 2000mL | CAN02K-DVV | CAN02K-DDV | CAN02K-DHV |

HANSON

COMPATIBLE SAMPLING CANNULA

| Part No. | Description | OEM Ref |
|---------------|---|------------|
| CAN475-HR | 4.75" (120mm) Bent 316 SS Cannula with SS Luer Lock & Perm SS Tip | QLA |
| CAN775-HR | 7.75" (195mm) Bent 316 SS Cannula with SS Luer Lock & Perm SS Tip | QLA |
| CAN475-SH | 4.75" (120mm) Bent 316 SS 1/8" (3.2mm) OD Cannula with SS Luer Lock | 95-590-002 |
| CAN775-SH | 7.75" (195mm) Bent 316 SS 1/8" (3.2mm) OD Cannula with SS Luer Lock | 95-590-001 |
| CAN015-SH | 15" (380mm) Bent 316 SS 1/8" (3.2mm) OD Cannula with SS Luer Lock | 95-590-003 |
| CANS15-SH | 15" (380mm) Straight 316 SS 1/8" (3.2mm) OD Cannula with SS Luer Lock | QLA |
| CAN475-PH | 4.75" (120mm) Bent PEEK 1/8" (3.2mm) OD Cannula with PEEK Luer Lock | 95-590-005 |
| CAN775-PH | 7.75" (195mm) Bent PEEK 1/8" (3.2mm) OD Cannula with PEEK Luer Lock | 95-590-004 |
| CAN015-PH | 15" (380mm) Bent PEEK 1/8" (3.2mm) OD Cannula with PEEK Luer Lock | 95-590-006 |
| CANS15-PH | 15" (380mm) Straight PEEK 1/8" (3.2mm) OD Cannula with PEEK Luer Lock | QLA |
| CAN475-SHL | 4.75" (120mm) Bent 316 SS 1/8" (3.2mm) OD Cannula with Kynar Luer Lock | QLA |
| CAN775-SHL | 7.75" (195mm) Bent 316 SS 1/8" (3.2mm) OD Cannula with Kynar Luer Lock | QLA |
| CAN475-062L | 4.75" (120mm) Bent 316 SS 1/16" (1.6mm) OD Cannula with Kynar Luer Lock | QLA |
| CAN775-062L | 7.75" (195mm) Bent 316 SS 1/16" (1.6mm) OD Cannula with Kynar Luer Lock | QLA |
| CANSTP-125-31 | Hanson 1/8" (3.2mm) OD Cannula Stopper for VanKel EaseAlign Cover | QLA |
| CANSTP-125-53 | Hanson 1/8" (3.2mm) OD Cannula Stopper for Distek Cover | QLA |
| CANSTP-065-31 | Distek/Hanson 1/16" (1.6mm) OD Cannula Stopper for VanKel EaseAlign Cover | QLA |
| CANSTP-065-53 | Distek/Hanson 1/16" (1.6mm) OD Cannula Stopper for Distek Cover | QLA |
| 74-104-202 | 500mL Fixed Vessel Mount Sample Probe, 1/16" (1.6mm) OD for Vision | 74-104-202 |
| 74-104-203 | 900mL Fixed Vessel Mount Sample Probe, 1/16" (1.6mm) OD for Vision | 74-104-203 |
| STPR-HR | Cannula Stopper for Vision | 74-104-205 |



CANSTP-125-31,
CANSTP-065-31



CANSTP-125-53,
CANSTP-065-53

74-104-202

STPR-HR

PHARMATEST COMPATIBLE SAMPLING CANNULA

| Part No. | Description | OEM Ref |
|-----------|---|---------|
| CAN475-SH | 4.75" (120mm) Bent 316 SS 1/8" (3.2mm) OD Cannula with SS Luer Lock | QLA |
| CAN775-SH | 7.75" (195mm) Bent 316 SS 1/8" (3.2mm) OD Cannula with SS Luer Lock | QLA |
| CAN475-PH | 4.75" (120mm) Bent PEEK 1/8" (3.2mm) OD Cannula with PEEK Luer Lock | QLA |
| CAN775-PH | 7.75" (195mm) Bent PEEK 1/8" (3.2mm) OD Cannula with PEEK Luer Lock | QLA |



SOTAX COMPATIBLE SAMPLING CANNULA

| Part No. | Description | OEM Ref |
|---------------|--|---------|
| CAN013-ST | 13" (330mm) Bent 316 SS Cannula with SS Luer Lock (thru head mount) | QLA |
| CAN013-ST-5 | 13" (330mm) Bent 316 SS Cannula, Pre-set with stopper for 500mL | QLA |
| CAN013-ST-9 | 13" (330mm) Bent 316 SS Cannula, Pre-set with stopper for 900mL | QLA |
| CAN013-ST-5-9 | 13" (330mm) Bent 316 SS Cannula with 2 Position Stopper | QLA |
| PRBFSR-5S | 500mL Sample/Return Probe Fixed w/ Filter Housing, Stopper & Up/Down Collars | QLA |
| PRBFSR-9S | 900mL Sample/Return Probe Fixed w/ Filter Housing, Stopper & Up/Down Collars | QLA |
| PRBFSR-ST | Combined Sample/Return Cannula with Filter Housing | QLA |
| PRBNSR-ST | Combined Sample/Return Cannula without Filter Housing | QLA |
| PRBFS10-ST | 500/900mL 316 SS Cannula with Inline Filter Housing (125 tubing) for AT/AT7smart | QLA |
| PRBFS10-ST82 | 500/900mL 316 SS Cannula with Inline Filter Housing (082 tubing) for AT/AT7smart | QLA |
| 010-06-202 | 1" (25.4mm) gauge block to set stopper height for PRBFS10-ST & PRBFS10-ST82 | QLA |
| CANSTP-ST | Adjustable Cannula Stopper for CAN013-ST | QLA |



CANNULA FILTERS

THE CANNULA FILTER

Almost every dissolution test relies on samples being taken to produce a result. Filters are used to prevent particles of tablet from getting into the sample and affecting the spectrophotometer or HPLC results.

Filters should be shown not to absorb any compounds of interest.

All filters are U.S. Pharmacopeia compliant where applicable and meet machine manufacturer specifications.

GUARANTEED CHROMIUM AND HEAVY METAL FREE

Our PureQuality certification program guarantees our filters not to have any Chromium, heavy metals, material contaminants or inorganic elemental interference. These are the purest and highest quality filters available today.



KEY CONSIDERATIONS

Most manufacturers use a filter on the end of the sampling cannula. These cannula filters are made of Ultra High Molecular Weight (UHMW) Polyethylene and are completely inert to most compounds.

With filters, porosities are nominal and represent an average pore size rather than an absolute pore size. Thus a 35µm and 40µm filter will perform in much the same way.

If in-line filters are used it is important that a small amount of media is pushed back in the reverse direction to wash particles off the filter back into the vessel. Particles are part of the tablet and as such should be kept inside the vessel dissolving with the rest of the tablet.

Failure to do this results in the particles staying on the filter. The effect of this is not only to remove the particles from the media but next time a sample is taken, the media is pulled through the particles stuck to the filter which can give erroneously high readings.

When selecting a filter, it is wise to conduct some tests to ensure that there is no sample absorption onto the filter. If this is a problem then alternative filters and materials are available but external filtration may be required.

Types of Filters:

- **Cannula Filters** — Cannula Filters generally have a large surface area and may affect the hydrodynamics in the vessel. However they have a good flow rate and may be used when high levels of particulates are present to prevent particulates blocking the sample probes. A large porosity range is available. Different manufacturers recommend different filters for use with their sampling cannula and not all are interchangeable because of differences in cannula diameter.
- **Filter Discs** — Some low volume sample probes require an In-Line Filter Disc (or filter frit) which has a lower surface area than a cannula filter. These are designed to keep the filtration process outside the vessel but may suffer from blocking due to the lower surface area. These are designed to keep the filtration process outside the vessel but blockages may occur due to the lower surface area.
- **Filter Tips** — Filter Tips are smaller than cannula filters and fit on the end of larger diameter sample probes.



FULL FLOW FILTERS
AGILENT/VANKEL
AND DISTEK DV SERIES
AUTO-SAMPLER PROBES
(see page 31 and 35)



CANNULA FILTERS
(see All Manufacturers
pages 35 - 37)



FILTER TIPS
(see Agilent/VanKel page 35)



FILTER DISCS
(see Distek page 35)

AGILENT COMPATIBLE CANNULA FILTERS

(INCLUDES LEGACY VANKEL)

Agilent and Legacy VanKel baths normally use either cannula style full flow filters or filter tips. *With Direct Fit, no tygon tubing needed.

| Part No. | Description | OEM Ref |
|-------------|--|---------|
| FIL001-01 | 1 Micron Full Flow Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL001-01-a | 1 Micron Full Flow Filters, UHMW Polyethylene (Pack/100) | QLA |
| FIL002-01 | 2 Micron Full Flow Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL002-01-a | 2 Micron Full Flow Filters, UHMW Polyethylene (Pack/100) | QLA |
| FIL010-01 | 10 Micron Full Flow Filters, UHMW Polyethylene (Jar/1000) | 17-4005 |
| FIL010-01-a | 10 Micron Full Flow Filters, UHMW Polyethylene (Pack/100) | 17-4000 |
| FIL010-VK | 10 Micron Full Flow Filters, UHMW Polyethylene, Direct Fit* (Jar/1000) | QLA |
| FIL010-VK-a | 10 Micron Full Flow Filters, UHMW Polyethylene, Direct Fit* (Pack/100) | QLA |
| FIL020-01 | 20 Micron Full Flow Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL020-01-a | 20 Micron Full Flow Filters, UHMW Polyethylene (Pack/100) | QLA |
| FIL035-01 | 35 Micron Full Flow Filters, UHMW Polyethylene (Jar/1000) | 17-4015 |
| FIL035-01-a | 35 Micron Full Flow Filters, UHMW Polyethylene (Pack/100) | 17-4010 |
| FIL035-VK | 35 Micron Full Flow Filters, UHMW Polyethylene, Direct Fit* (Jar/1000) | QLA |
| FIL035-VK-a | 35 Micron Full Flow Filters, UHMW Polyethylene, Direct Fit* (Pack/100) | QLA |
| FIL045-01 | 45 Micron Full Flow Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL045-01-a | 45 Micron Full Flow Filters, UHMW Polyethylene (Pack/100) | QLA |
| FIL045-VK | 45 Micron Full Flow Filters, UHMW Polyethylene, Direct Fit* (Jar/1000) | QLA |
| FIL045-VK-a | 45 Micron Full Flow Filters, UHMW Polyethylene, Direct Fit* (Pack/100) | QLA |
| FIL070-01 | 70 Micron Full Flow Filters, UHMW Polyethylene (Jar/1000) | 17-4025 |
| FIL070-01-a | 70 Micron Full Flow Filters, UHMW Polyethylene (Pack/100) | 17-4020 |
| FIL070-VK | 70 Micron Full Flow Filters, UHMW Polyethylene, Direct Fit* (Jar/1000) | QLA |
| FIL070-VK-a | 70 Micron Full Flow Filters, UHMW Polyethylene, Direct Fit* (Pack/100) | QLA |
| FILTIP-02 | 2 Micron Filter Tips (Jar/1000) | 17-4100 |
| FILTIP-05 | 5 Micron Filter Tips (Jar/1000) | 17-4110 |
| FILTIP-10 | 10 Micron Filter Tips (Jar/1000) | 17-4120 |
| FILTIP-20 | 20 Micron Filter Tips (Jar/1000) | 17-4130 |
| FILTIP-45 | 45 Micron Filter Tips (Jar/1000) | 17-4140 |



AGILENT/VANKEL
CANNULA FILTERS



AGILENT/VANKEL
FILTER TIPS

Tygon Tubing Troubles? Go for a Direct Fit!

Try QLA's VK series Full Flow Filters. These filters have been designed to fit directly onto the end of the standard Agilent/VanKel style manual and automated cannula. No tygon tubing needed! Ask your QLA Sales Rep for more information.

DISTEK COMPATIBLE CANNULA FILTERS

Distek baths utilize a resident sampling probe that incorporates a small filter disc. An external end tip filter may also be used instead of, or in addition to the filter disc. For DV Series Auto-Sampler Probe Filters, see page 31.

| Part No. | Description | OEM Ref |
|-------------|---|----------------|
| FIL010-DK | 10 Micron Filter Discs, UHMW Polyethylene (Jar/1000) | 5720-0203-1000 |
| FIL010-DK-a | 10 Micron Filter Discs, UHMW Polyethylene (Pack/100) | QLA |
| FIL035-DK | 35 Micron Filter Discs, UHMW Polyethylene (Jar/1000) | 5720-0235 |
| FIL045-DK | 45 Micron Filter Discs, UHMW Polyethylene (Jar/1000) | 5720-0275-1000 |
| FIL045-DK-a | 45 Micron Filter Discs, UHMW Polyethylene (Pack/100) | QLA |
| FIL070-DK | 70 Micron Filter Discs, UHMW Polyethylene (Jar/1000) | QLA |
| FIL070-DK-a | 70 Micron Filter Discs, UHMW Polyethylene (Pack/100) | QLA |
| FIL090-DK | 90 Micron Filter Discs, UHMW Polyethylene (Jar/1000) | QLA |
| FIL090-DK-a | 90 Micron Filter Discs, UHMW Polyethylene (Pack/100) | QLA |
| FIL10S-DK | 10 Micron Porous Filters, UHMW Polyethylene, 1/16" (Jar/1000) | 5720-0501 |
| FIL10S-DK-a | 10 Micron Porous Filters, UHMW Polyethylene, 1/16" (Pack/100) | 5720-0500 |
| FIL20S-DK | 20 Micron Porous Filters, UHMW Polyethylene, 1/16" (Jar/1000) | 5720-0240-1000 |
| FIL20S-DK-a | 20 Micron Porous Filters, UHMW Polyethylene, 1/16" (Pack/100) | 5720-0240-100 |
| FIL35S-DK | 35 Micron Porous Filters, UHMW Polyethylene, 1/16" (Jar/1000) | 5720-0220-1000 |
| FIL35S-DK-a | 35 Micron Porous Filters, UHMW Polyethylene, 1/16" (Pack/100) | 5720-0220-100 |
| FIL45S-DK | 45 Micron Porous Filters, UHMW Polyethylene, 1/16" (Jar/1000) | 5720-0020-1000 |
| FIL45S-DK-a | 45 Micron Porous Filters, UHMW Polyethylene, 1/16" (Pack/100) | 5720-0020-100 |
| FIL70S-DK | 70 Micron Porous Filters, UHMW Polyethylene, 1/16" (Jar/1000) | 5720-0503 |
| FIL70S-DK-a | 70 Micron Porous Filters, UHMW Polyethylene, 1/16" (Pack/100) | 5720-0502 |



DISTEK
FILTER DISCS



DISTEK
CANNULA FILTERS

ERWEKA COMPATIBLE CANNULA FILTERS

Erweka baths normally use 1/8" (3.2mm) cannula style filters with a large range of porosities.

| Part No. | Description | OEM Ref |
|-------------|--|-------------|
| FIL001-EW | 1 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | 70-000-2999 |
| FIL001-EW-a | 1 Micron Porous Filters, UHMW Polyethylene (Pack/100) | 70-000-2100 |
| FIL004-EW | 4 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | 70-000-3999 |
| FIL004-EW-a | 4 Micron Porous Filters, UHMW Polyethylene (Pack/100) | 70-000-3100 |
| FIL010-EW | 10 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | 70-000-4999 |
| FIL010-EW-a | 10 Micron Porous Filters, UHMW Polyethylene (Pack/100) | 70-000-4100 |
| FIL020-EW | 20 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | 70-000-5999 |
| FIL020-EW-a | 20 Micron Porous Filters, UHMW Polyethylene (Pack/100) | 70-000-5100 |
| FIL035-EW | 35 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL035-EW-a | 35 Micron Porous Filters, UHMW Polyethylene (Pack/100) | QLA |
| FIL040-EW | 40 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL040-EW-a | 40 Micron Porous Filters, UHMW Polyethylene (Pack/100) | QLA |
| FIL070-EW | 70 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL070-EW-a | 70 Micron Porous Filters, UHMW Polyethylene (Pack/100) | QLA |



ERWEKA
CANNULA FILTERS

HANSON COMPATIBLE CANNULA FILTERS

Hanson Research baths use cannula style filters. The Hanson/Waters Dissolution/HPLC interface uses a 1/16" (1.6mm) narrow bore filter instead of the normal 1/8" (3.2mm) diameter.

| Part No. | Description | OEM Ref |
|-------------|---|------------|
| FIL001-HR | 1 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | 27-101-097 |
| FIL001-HR-a | 1 Micron Porous Filters, UHMW Polyethylene (Pack/100) | 27-101-087 |
| FIL004-HR | 4 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | 27-101-098 |
| FIL004-HR-a | 4 Micron Porous Filters, UHMW Polyethylene (Pack/100) | 27-101-088 |
| FIL010-HR | 10 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | 27-101-091 |
| FIL010-HR-a | 10 Micron Porous Filters, UHMW Polyethylene (Pack/100) | 27-101-074 |
| FIL020-HR | 20 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL020-HR-a | 20 Micron Porous Filters, UHMW Polyethylene (Pack/100) | QLA |
| FIL035-HR | 35 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | 27-101-095 |
| FIL035-HR-a | 35 Micron Porous Filters, UHMW Polyethylene (Pack/100) | 27-101-085 |
| FIL045-HR | 45 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL045-HR-a | 45 Micron Porous Filters, UHMW Polyethylene (Pack/100) | 27-101-089 |
| FIL070-HR | 70 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | 27-101-092 |
| FIL070-HR-a | 70 Micron Porous Filters, UHMW Polyethylene (Pack/100) | 27-101-082 |
| FIL10S-HR | 10 Micron Porous Filters, UHMW Polyethylene, 1/16" (Jar/1000) | 27-101-093 |
| FIL10S-HR-a | 10 Micron Porous Filters, UHMW Polyethylene, 1/16" (Pack/100) | 27-101-083 |
| FIL20S-HR | 20 Micron Porous Filters, UHMW Polyethylene, 1/16" (Jar/1000) | QLA |
| FIL20S-HR-a | 20 Micron Porous Filters, UHMW Polyethylene, 1/16" (Pack/100) | QLA |
| FIL35S-HR | 35 Micron Porous Filters, UHMW Polyethylene, 1/16" (Jar/1000) | 27-101-096 |
| FIL35S-HR-a | 35 Micron Porous Filters, UHMW Polyethylene, 1/16" (Pack/100) | 27-101-086 |
| FIL45S-HR | 45 Micron Porous Filters, UHMW Polyethylene, 1/16" (Jar/1000) | QLA |
| FIL45S-HR-a | 45 Micron Porous Filters, UHMW Polyethylene, 1/16" (Pack/100) | 27-101-090 |
| FIL70S-HR | 70 Micron Porous Filters, UHMW Polyethylene, 1/16" (Jar/1000) | 27-101-094 |
| FIL70S-HR-a | 70 Micron Porous Filters, UHMW Polyethylene, 1/16" (Pack/100) | 27-101-084 |



HANSON
CANNULA FILTERS

PHARMATEST COMPATIBLE CANNULA FILTERS

Pharmatest baths normally use 1/8" (3.2mm) cannula style filters with a large range of porosities.

| Part No. | Description | OEM Ref |
|-------------|--|-------------|
| FIL001-PT | 1 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL001-PT-a | 1 Micron Porous Filters, UHMW Polyethylene (Pack/100) | QLA |
| FIL004-PT | 4 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL004-PT-a | 4 Micron Porous Filters, UHMW Polyethylene (Pack/100) | QLA |
| FIL005-PT | 5 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL005-PT-a | 5 Micron Porous Filters, UHMW Polyethylene (Pack/100) | 31-63511-50 |
| FIL010-PT | 10 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL010-PT-a | 10 Micron Porous Filters, UHMW Polyethylene (Pack/100) | 31-63211-50 |
| FIL035-PT | 35 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL035-PT-a | 35 Micron Porous Filters, UHMW Polyethylene (Pack/100) | QLA |
| FIL070-PT | 70 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL070-PT-a | 70 Micron Porous Filters, UHMW Polyethylene (Pack/100) | QLA |



**PHARMATEST
CANNULA FILTERS**

SOTAX COMPATIBLE CANNULA FILTERS

Sotax baths normally use 1/8" (3.2mm) cannula style filters with a large range of porosities.

| Part No. | Description | OEM Ref |
|-------------|--|------------|
| FIL010-ST | 10 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | 27-101-091 |
| FIL010-ST-a | 10 Micron Porous Filters, UHMW Polyethylene (Pack/100) | 27-101-074 |
| FIL020-ST | 20 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | QLA |
| FIL020-ST-a | 20 Micron Porous Filters, UHMW Polyethylene (Pack/100) | QLA |
| FIL035-ST | 35 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | 27-101-095 |
| FIL035-ST-a | 35 Micron Porous Filters, UHMW Polyethylene (Pack/100) | 27-101-085 |
| FIL070-ST | 70 Micron Porous Filters, UHMW Polyethylene (Jar/1000) | 27-101-092 |
| FIL070-ST-a | 70 Micron Porous Filters, UHMW Polyethylene (Pack/100) | 27-101-082 |



**SOTAX
CANNULA FILTERS**

CANNULA FILTERS COLOR CODING

Some cannula filters are color coded for easy identification of porosity.



TRANSDERMAL TESTING

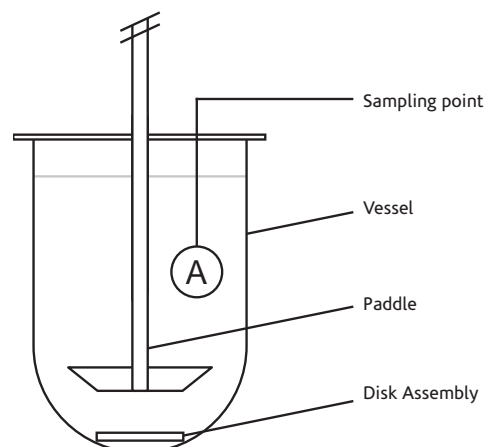
PADDLE OVER DISK Apparatus 5

With paddle over disk, a transdermal patch is placed either between a glass disk and an inert PTFE mesh (APPFIVE-HR), or directly onto a stainless steel mesh (APPFIVE-V35, APPFIVE-V56 and APPFIVE-V80). This is placed at the bottom of the vessel, with the release side facing upwards, under a rotating paddle.

Transdermal testing is carried out at 32°C to reflect the temperature of the skin.

Other variables such as the height setting and sampling requirements are the same as for USP Method 2.

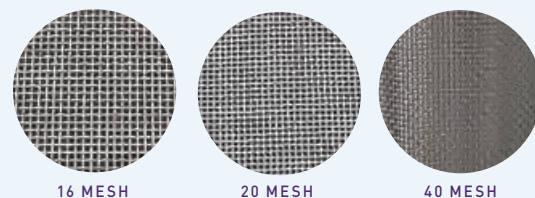
QLA's USP Apparatus 5 products are compatible with all brands of dissolution baths.



KEY CONSIDERATIONS

The APPFIVE-HR watch glass patch holder is a borosilicate watch glass with a 17 mesh PTFE screen, held together by Kynar clips. Patches up to 90mm in diameter can be tested. It is compatible with all brands of dissolution baths and conforms exactly to the USP specification.

The APPFIVE-V35, APPFIVE-V56 and APPFIVE-V80 patch holders have stainless steel screens and can accommodate various patch sizes. Various mesh sizes are available.



Note: Other mesh sizes are available on request. For more information, contact your QLA Sales Rep.

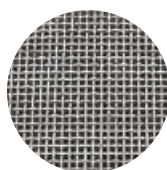
PADDLE OVER DISK APPARATUS 5

| Part No. | Description | OEM Ref |
|----------------|--|---------------------|
| APPFIVE-HR | Transdermal Patch Holder includes watch glass, (1) 17 mesh screen, (4) Kynar Clips | 65-190-092 H |
| APPFIVE-HRCLIP | Kynar Clip for APPFIVE-HR | 65-190-205 H |
| APPFIVE-HRSCR | 17 mesh screen for APPFIVE-HR | 65-190-190 H |
| APPFIVE-V35 | Paddle over Disk Assembly, 35mm opening, 40 mesh screen, 316 SS | 12-4200 A |
| APPFIVE-V56 | Paddle over Disk Assembly, 56mm opening, 120 mesh screen, 316 SS | 12-4230 A |
| APPFIVE-V80 | Paddle over Disk Assembly, 80mm opening, (2) 16x16 mesh screens, 316 SS | QLA |
| APP5S16-35 | 16 Mesh Stainless Steel Screen for APPFIVE-V35 (Pack/25) | QLA |
| APP5S20-35 | 20 Mesh Stainless Steel Screen for APPFIVE-V35 (Pack/25) | QLA |
| APP5S30-35 | 30 Mesh Stainless Steel Screen for APPFIVE-V35 (Pack/25) | QLA |
| APP5S40-35 | 40 Mesh Stainless Steel Screen for APPFIVE-V35 (Pack/25) | QLA |
| APP5S20-56 | 20 Mesh Stainless Steel Screen for APPFIVE-V56 (Pack/25) | QLA |
| APP5S40-56 | 40 Mesh Stainless Steel Screen for APPFIVE-V56 (Pack/25) | QLA |
| APP5S120-56 | 120 Mesh Stainless Steel Screen for APPFIVE-V56 (Pack/25) | QLA |
| APP5S16-80 | 16 Mesh Stainless Steel Screen for APPFIVE-V80 (Pack/25) | QLA |
| TRANDE-SC | Custom Transdermal Screen, 316 SS | QLA |

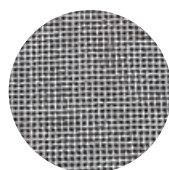


OEM Key

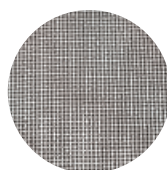
- A** AGILENT
- D** DISTEK
- H** HANSON



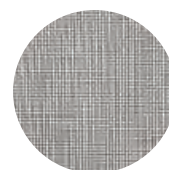
APP5S16-35



APP5S20-35



APP5S30-35



APP5S40-35



TRANDE-SC

ROTATING CYLINDER Apparatus 6

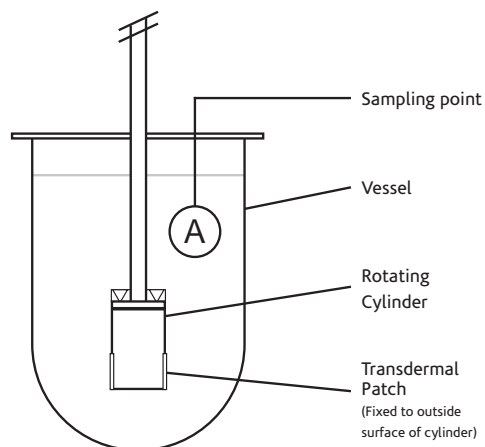
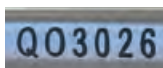
USP Apparatus 6 rotating cylinder is similar to USP Method 1 (the rotating basket). However, the basket assembly is replaced by a solid 316 Stainless Steel cylinder.

The transdermal patch is fixed to the outside surface of the cylinder.

Transdermal testing is carried out at 32°C to reflect the temperature of the skin.

Other variables such as the height setting and sampling requirements are the same as for USP Apparatus 1.

QLA's Rotating Cylinders and Extensions are serialized, come with a Certificate of Conformance and are compatible with most brands of dissolution baths.



KEY CONSIDERATIONS

If an extension (APPSIX-EX) is needed, it should be ordered at the same time as the main cylinder (APPSIX-01/AP6CYL-DK/SPNAP6-01).

Other shaft lengths are available on request.



ROTATING CYLINDER ASSEMBLED WITH EXTENSION

ROTATING CYLINDER APPARATUS 6

| Part No. | Description | OEM Ref |
|------------|--|---------------------|
| APPSIX-01 | Rotating Cylinder for Transdermal Patches, 316 SS, Serialized | QLA |
| AP6CYL-DK | Detachable Rotating Cylinder for Transdermal Patches for Distek, 316 SS, Serialized | 3200-0142 D |
| SPNAP6-01 | Spin ON/OFF Rotating Cylinder for Transdermal Patches, 316 SS, Serialized (Upper Shaft available separately) | QLA |
| APPSIX-EX | Rotating Cylinder Extension for APPSIX-01/AP6CYL-DK/SPNAP6-01, 316 SS, Serialized | QLA |
| 74-105-240 | Rotating Cylinder for Transdermal Patches for Hanson Vision, 316 SS, Serialized | 74-105-240 H |
| 74-105-241 | Rotating Cylinder and Extension Set for Hanson Vision, 316 SS, Serialized | 74-105-241 H |



APPSIX-01



APPSIX-EX



ROTATING CYLINDER VIEWED FROM BELOW

OEM Key

- A** AGILENT
- D** DISTEK
- H** HANSON



QLA's Laser Marking Capabilities are Endless!

Please contact us for any custom identification needs you may have.

BIODISSOLUTION ACCESSORIES

BIODISSOLUTION ACCESSORIES Apparatus 3

AGILENT COMPATIBLE BIODISSOLUTION ACCESSORIES
(INCLUDES LEGACY VANKEL)

| Part No. | Description | OEM Ref |
|----------------|--|---------|
| GLA100-VBIO | 100mL Outer Glass, Clear, Non-Graduated | 27-5110 |
| GLA300-01 | 300mL Outer Glass, Clear, Non-Graduated | 27-5100 |
| GLA300-02 | 300mL Outer Glass, Clear, Graduated | QLA |
| GLA300-03 | 300mL Outer Glass, Clear with Class A 250mL mark | QLA |
| GLA300-AV | 300mL Outer Glass, Amber, Non-Graduated | QLA |
| EVACOV-05 | Evaporation Cover for 300mL Outer Glass, PVC | 27-1500 |
| GLAIST-01 | 100mL Glass Inner Sample Tube with threaded ends, Clear | 27-5000 |
| GLAIST-AV | 100mL Glass Inner Sample Tube with threaded ends, Amber | QLA |
| LOWCAP-03 | Lower Cap for 100mL Inner Sample Tube | 27-1020 |
| LOWCAP-05 | Lower Cap for 100mL Inner Sample Tube, Wider Style for improved mixing | 27-1050 |
| UPPCAP-03 | Upper Cap for 100mL Inner Sample Tube | 27-1000 |
| MSHSCR-10 | 10 Mesh Screen, Stainless Steel, 1.25" dia. (Pack/25) | 27-2099 |
| MSHSCR-20 | 20 Mesh Screen, Stainless Steel, 1.25" dia. (Pack/25) | 27-2100 |
| MSHSCR-30 | 30 Mesh Screen, Stainless Steel, 1.25" dia. (Pack/25) | 27-2103 |
| MSHSCR-40 | 40 Mesh Screen, Stainless Steel, 1.25" dia. (Pack/25) | 27-2105 |
| POLSCR-20 | 20 Mesh Screen, Polypropylene, 1.25" dia. (Pack/25) | 27-2000 |
| POLSCR-30 | 30 Mesh Screen, Polypropylene, 1.25" dia. (Pack/25) | QLA |
| POLSCR-40 | 40 Mesh Screen, Polypropylene, 1.25" dia. (Pack/25) | 27-2005 |
| POLSCR-78 | 78 Mesh Screen, Polypropylene, 1.25" dia. (Pack/25) | 27-2010 |
| POLSCR-1K | 100 Mesh Screen, Polypropylene, 1.25" dia. (Pack/25) | 27-2015 |
| VESSTD-APP3/14 | 14 Position Vessel Stand for 300mL Outer Glass | QLA |
| VESSTD-APP3/20 | 20 Position Vessel Stand for 300mL Outer Glass | QLA |



GLA100-VBIO GLA300-AV



GLA300-01 GLA300-02 GLA300-03



EVACOV-05 LOWCAP-03 LOWCAP-05 UPPCAP-03



GLAIST-01 GLAIST-AV



MSHSCR-20 MSHSCR-30 MSHSCR-40 POLSCR-20 POLSCR-30 POLSCR-40 POLSCR-1K

CALIBRATION TOOLS

CONTROLLING HARDWARE VARIABLES

It is important to ensure the dissolution bath is working as intended, and giving precise and reproducible results. To do this it is important that the bath meets the USP or ASTM physical specification. The ASTM variables are tighter as they rely only on the physical measurement whereas the USP also requires a test using calibrator tablets.

KEY CONSIDERATIONS

The variables are:

| Specification | ASTM | USP |
|----------------------|---|--------------------------|
| Shaft Wobble | 1.0mm Max. | No significant wobble |
| Shaft Verticality | Must be vertical, bubble within the lines | Not defined |
| Basket Wobble | 1.0mm Max. at bottom rim | 1.0mm Max. at bottom rim |
| Vessel Centering | 1.0mm Max. | 2.0mm Max. |
| Paddle/Basket Height | +/- 8% or +/- 2.0mm | +/- 2.0mm |
| Rotation | 2% or +/- 2 rpm | +/- 4% |
| Temperature | +/- 0.5°C | +/- 0.5°C |
| Vibration | No significant vibration | No significant vibration |
| Vessel verticality | 1° from vertical Max. | Not specified |

QLA provides a comprehensive set of validation tools to measure these variables. All tools (except the verticality meter) are serialized and supplied with a traceable 1 year certificate of calibration.

Wobble Meter (WOBMET-UN) — The Wobble Meter uses a special vessel cover that fits securely inside the top of the vessel. The gauge is firmly attached to this cover then placed against the shaft or basket. The shaft is then rotated at a slow speed and the wobble (displacement) is displayed on the easy to read dial. The gauge works with all open dissolution baths (where you can access the vessel during the test).

Vibration Meter (VIBMET-UN) — This simple Vibration Meter allows you to quickly assess vibration levels and ensure that low levels are maintained when new equipment is introduced into the lab or after routine bath maintenance. It uses digital electronics but is equipped with an analog needle display. For this type of device, an analog display is better than a digital one because it gives a much better feel for the nature of the vibrations.

The meter uses an accelerometer probe that is calibrated to the meter as a matched set. The probe end has a custom mounting block that is compatible with most dissolution instruments.

Universal Level (LEVEL-UN) — The bath's vessel plate must be level to ensure the bath has been properly set up. Baths are equipped with adjustable feet which may be adjusted while observing the Universal Level to achieve vessel plate levelness. The certified level is a simple circular, bubble level that allows quick and easy verification of the vessel plate level in all directions at once.

Verticality Meter (VERTMET-MI) — This digital Verticality Meter is a highly precise device which permits accurate measurement of shaft and vessel verticality as required by the ASTM Specification. The meter is suitable for any open dissolution bath where vessels and shafts are accessible. The meter requires a simple user calibration at each time of use and for this reason is not supplied with a certificate of calibration (Available on request only).

Depth Setting Tools (DEPSET-25, DEPSET-25A, DEPSET-MI, DEPSET-VK, ASTMBALL-25, DEPSET-45, DEPSET-PK, DEPSET-SB) — QLA offers multiple tools for setting the height of the basket/paddle (use DDAPT-Plus to measure the height). See descriptions and pictures to identify which style will best suit the needs of your laboratory. To set the correct depth, simply place the gauge at the bottom of the vessel, lower the basket or paddle until it touches the spacer and lock the shaft into position.

Depth Measuring Gauges, Digital Depth Gauge (DDAPT-Plus) — The new Digital Depth Gauge is an extremely precise instrument used to accurately measure the basket/paddle distance from the vessel spherical bottom. This allows basket or paddle height to be determined within .01mm. The DDAPT-Plus Digital Depth Gauge is made to fit most open access dissolution baths.

Optical Tachometer (TACHOM-UN) — The most accurate method of measuring the rotational speed is by using an Optical Tachometer. A reflective sticker is placed on the shaft or shaft drive, the Optical Tachometer shines an infrared light on to the shaft at this point. The reflection is then measured at every rotation, giving an accurate reading of the rotational speed. The tachometer can be used on all dissolution baths.

Centering Gauge (CNTGAG-MI) — The Centering Gauge comes with a 3/8" OD surrogate shaft that fits directly into the shaft drive. A 10mm OD surrogate shaft (EUROINDC-M) is also available separately. The gauge may be placed near the vessel top and bottom (beginning of the spherical radius). This allows the impact of vessel verticality on centering to be evaluated. The spindle is rotated slowly and the measuring arm follows the inside of the vessel perimeter. Deviation from the center position can be directly read from the dial, which always faces the operator.

The gauge works on most open access baths. For bathless systems where the shaft cannot be easily removed, the gauge fits directly onto the bottom of the shaft once the basket hub or paddle is removed.

Calibrated Thermometer (THERMD-LC) — The digital Calibrated Thermometer is an extremely accurate thermistor-based low cost thermometer. It is ideal for validating dissolution bath and media temperature as well as general lab use. A simple switch lets you set the digital display to show either Celsius or Fahrenheit readings. The thermometer is supplied with a certificate of calibration.

Validation Tool Kits (VALTOL-KT2 & VALTOL-ASTM) — Our Validation Tool Kits contain everything necessary to make a complete calibration of a dissolution bath.

- The VALTOL-KT2 standard tool kit contains a Centering Gauge, Precision Level, Wobble Meter, Go/No Go Gauge (this is used to verify that the height is more than 23mm but less than 27mm) and a 25mm Depth Set Tool.
- The VALTOL-ASTM Tool Kit is the same as the KT2 kit but also includes the verticality meter and manual verticality tools.

Both kits contain instruction manuals, together with individual certificates of calibration.

| Part No. | Description | OEM Ref |
|-------------|--|------------------|
| CNTGAG-MI | Vessel Centering Gauge, Multi-Instrument | QLA |
| EUROINDC-M | 10mm Shaft for CNTGAG-MI | QLA |
| WOBMET-MI | Wobble Meter, Multi-Instrument | QLA |
| DDAPT-PLUS | 25mm Digital Depth Gauge with Case, Multi-Instrument | QLA |
| ASTMBALL-25 | 25mm Calibrated Ball | QLA |
| DEPSET-25 | 25mm Depth Set Tool, Black Acrylic | QLA |
| DEPSET-25A | 25mm Depth Set Tool, Carbon Fiber | QLA |
| DEPSET-MI | 25mm Ball Style Depth Set Tool | QLA |
| DEPGAG-VK | 25mm Depth Set Gauge, Stainless Steel, VanKel Style | 12-7300 A |
| GNGDEP | Go/No Go 25mm Depth Gauge | QLA |
| DEPSET-45 | 45mm Ball Style Depth Set Tool | QLA |
| DEPSET-PK | Depth Set Tool for PEAK Vessels | QLA |
| DPSPBK-VK | 25mm Basket Height Spacer for Legacy VanKel Baths | 12-7210 A |
| DPSPPD-VK | 25mm Paddle Height Spacer for Legacy VanKel Baths | 12-7200 A |
| DEPSET-SB | 1cm Stationary Basket Spacer for Legacy VanKel Baths | QLA |
| LEVEL-UN | Universal Precision Bubble Level, Multi-Instrument | QLA |
| VERTMET-MI | Digital Verticality Meter, Multi-Instrument | QLA |
| THERMD-LC | Calibrated Digital Thermometer, Multi-Instrument | QLA |
| TACHOM-UN | Optical Tachometer, Multi-Instrument | QLA |
| TACHCLIP | Tacometer Target Clip for 3/8" OD Shaft | QLA |
| VIBMET-UN | Vibration Meter includes probe and case, Multi-Instrument | QLA |
| VALTOL-ASTM | ASTM Validation Tool Kit includes Centering Gauge, Wobble Meter, 25mm Depth Set Tool, Go/No Go Gauge, Adapters, Digital Verticality Meter and Manual Verticality Tools (Not for use on Hanson Vision or Sotax) | QLA |
| VALTOL-KT2 | Standard Validation Tool Kit includes Centering Gauge, Wobble Meter, 25mm Depth Set Tool, Go/No Go Gauge, Adapters and Precision Bubble Level (Not for use on Hanson Vision or Sotax) | QLA |



DPSPPD-VK



DPSPBK-VK



DEPSET-SB



LEVEL-UN



VERTMET-MI



THERMD-LC



TACHOM-UN



TACHCLIP



VIBMET-UN



VALTOL-ASTM



VALTOL-KT2



CNTGAG-MI



WOBMET-MI



DDAPT-PLUS



DEPSET-MI



DEPSET-25A



DEPSET-PK

DEPGAG-VK

GNGDEP

MISC DISSOLUTION ACCESSORIES

VESSEL CENTERING SYSTEM ACCESSORIES

Problems with vessel centering? We have THE solution for that!

The QLA AccuCenter™ Bracket provides ultimate centering accuracy on most dissolution instruments (both old and new).

- Cost effective replacement for OEM centering systems
- Spring loaded, rotary knobs secure the vessel firmly in place and eliminate floating when empty

This innovative bracket is adjustable and designed to center the vessel from the inside diameter and not the outside. When used in conjunction with QLA's UltraCenter™ Precision Vessels, extreme centering accuracy can be achieved. Many older baths were not designed to meet the new tighter centering requirements of Enhanced Mechanical Calibration and/or ASTM. When Pharmaceutical Labs adopt these stricter mechanical guidelines, there is no need to run USP calibrator tablets! This generally results in considerable cost and time savings for your lab. Please speak with your QLA Sales Rep for more information.



ACCUCENTER BRACKET



EZLBKT-01

OEM Key

- A** AGILENT
- D** DISTEK



EZLPEG-01



RING01-DK



RING-UCEW

| Part No. | Description | OEM Ref |
|------------------|--|--------------------|
| ACCUBKT-VK | AccuCenter Bracket for Legacy VanKel and Agilent 708-DS Baths | QLA |
| EZLBKT-01 | Vessel Centering Bracket with 6 Replaceable Pins for Legacy VanKel Baths | 12-6050 A |
| EZLKIT-01 | Vessel Centering Bracket Repair Kit (Set/12 Pins) | QLA |
| EZLPEG-01 | Vessel Centering Bracket Peg | 12-6065 A |
| ACCUBKT-DK | AccuCenter Bracket for Distek 2100 Baths | QLA |
| ACCUBKT-DK2500 | AccuCenter Bracket for Distek 2500 Baths | QLA |
| ACCUBKT-IKIT2500 | AccuCenter Bracket Installation Kit for Distek 2500 Baths | QLA |
| RING01-DK | Acculign Vessel Centering Ring for Distek | 3350-0096 D |
| RING-UCEW | Vessel Hold Down Ring for UltraCenter Vessels on Erweka DT Baths | QLA |
| ACCUBKT-HR | AccuCenter Bracket for Hanson SR8-Plus Baths | QLA |

AGILENT VK8000 AUTO-SAMPLER ACCESSORIES

| Part No. | Description | OEM Ref |
|------------|-------------------------------------|---------|
| RINSETRAY6 | 6 Position Acrylic Rinse Tray | 17-1300 |
| RINSETRAY8 | 8 Position Acrylic Rinse Tray | 17-1310 |
| REPNEED-VL | Long Replacement Needle for VK8000 | 17-6100 |
| REPNEED-VS | Short Replacement Needle for VK8000 | 17-6110 |



RINSETRAY8



REPNEED-VL

REPNEED-VS

WATER BATH PRESERVATIVE

Got Green Water? Try EVER-CLEAR

- Highly soluble water preservative crystals.
- Extremely effective against the formation of bacteria and fungi.
- Non-hazardous and its environmentally friendly formula does not require any special disposal instructions.
- Regular use will reduce the effect of microorganism build-up inside the bath and within the pump and heater.
- Use with DEIONIZED water.
- Single dose will protect a bath for up to 8 weeks.
- Time saving! No need to empty the bath while using Ever-Clear; just add one container to your bath every 8 weeks.



| Part No. | Description | OEM Ref |
|--------------|--|---------|
| EVERCLEAR | Ever-Clear Dissolution Bath Algaecide, Single Dose | QLA |
| EVERCLEAR-12 | Ever-Clear Dissolution Bath Algaecide, Single Dose (Pack/12) | QLA |
| EVERCLEAR-48 | Ever-Clear Dissolution Bath Algaecide, Single Dose (Pack/48) | QLA |

TUBING

| Part No. | Description | OEM Ref |
|-----------|---|--------------------|
| PPTUBV-01 | Peristaltic Pump Tubing, Santoprene, Coded Purple & White (Set/8) | 17-6000 A |
| PPTUBV-02 | Peristaltic Pump Tubing, Silicone, Coded Purple & White (Set/8) | 17-6010 A |
| PPTUBD-01 | Peristaltic Pump Tubing, Santoprene (Set/6) | 5640-0337 D |
| TAATUB-HP | 3 Collar Auto Analyzer Tubing, Tygon, .081" (2.06mm) ID (Set/12) | QLA |
| TEFTUB-HP | FEP Tubing for HP, PTFE, 1/32" (.8mm) ID x 1/16" (1.6mm) OD (500' (152m) Roll) | QLA |
| TEFTUB-8V | Color-Coded Sample Tubing, PTFE, .040" (1.02mm) ID x .066" (1.68mm) OD [8 Lengths of 50' (15m)] | QLA |
| TUBING | Tygon Tubing, 1/16" (1.6mm) ID x 1/8" (3.2mm) OD (Sold by Foot) | QLA |
| CANFER-UN | Flangeless Ferrule for 1/16" (1.6mm) Tubing | QLA |
| CANFLN-UN | Flangeless Nut, 1/4-28 for 1/16" (1.6mm) Tubing | QLA |



PPTUBV-01



PPTUBV-02



PPTUBD-01



TAATUB-HP



TEFTUB-HP

TUBING

OEM Key

- A** AGILENT
- D** DISTEK



CANFER-UN



CANFLN-UN



TEFTUB-8V

PAPER ROLLS FOR AGILENT (INCLUDES LEGACY VANKEL)

| Part No. | Description | OEM Ref |
|--------------|--|---------|
| PAP100-01 | Plain Paper Rolls for Report Center II (Pack/25) | 12-9995 |
| TPP082-70XDS | Thermal Paper Rolls, 2.25" wide (Pack/25) | 12-9988 |
| TPP100-01 | Thermal Paper Rolls, 1.5" wide (Pack/25) | 12-9994 |



PAP100-01



TPP100-01

SHAFT COLLARS

| Part No. | Description | OEM Ref |
|-----------|---|--------------------|
| TUMSCR-DK | Shaft Collar w/Thumb Screw for Distek 2100 Series | 2821-0094 D |
| SHTCOL-DK | Shaft Collar & Hex Key for 3/8" OD Shaft | 5570-6077 D |
| SHTCOL-EW | Locking collar for 10mm OD Shaft | QLA |



TUMSCR-DK



SHTCOL-DK

PTFE SUSPENSION CUPS

| Part No. | Description | OEM Ref |
|------------|---|------------------|
| SUSPC-BASE | Weighted Holder, 57.2mm OD, 5.2mm ID. | 12-4050 A |
| SUSPC-17.5 | Insert cup, 17.5 x 8.2mm, use with SUSPC-BASE | 12-4055 A |
| SUSPC-20 | Insert cup, 20 x 8.2mm, use with SUSPC-BASE | 12-4060 A |



SUSPC-17.5



SUSPC-20



SUSPC-BASE



Do You Have Calibration, Maintenance or Repair Needs?

QLA Lab Services division will keep your lab equipment in optimal working order and is also ISO/IEC 17025 accredited. We provide calibration (PVT & EMC), validation, maintenance, repair, training, relocation, consulting and auditing services.

For more information visit www.QLAlabservices.com or call (908) 685-7500.

GLASS ACCESSORIES

VOLUMETRIC FLASKS

| Part No. | Description | OEM Ref |
|-----------|--|---------|
| VOLFLK-05 | 500mL Volumetric Flask, Class A, Calibrated at 20°C, Round Bottom | QLA |
| VOLFLK-09 | 900mL Volumetric Flask, Class A, Calibrated at 20°C, Round Bottom | QLA |
| VOLFLK-1K | 1000mL Volumetric Flask, Class A, Calibrated at 20°C, Round Bottom | QLA |
| VOLFLK-X5 | 500mL Volumetric Flask, Class A, Calibrated at 37°C, Round Bottom | QLA |
| VOLFLK-X9 | 900mL Volumetric Flask, Class A, Calibrated at 37°C, Round Bottom | QLA |
| VOLFLK-X1 | 1000mL Volumetric Flask, Class A, Calibrated at 37°C, Round Bottom | QLA |



500ML FLASK

900ML FLASK

1000ML FLASK

TAPPED DENSITY

| Part No. | Description | OEM Ref |
|-----------|---|------------------|
| GLA010-01 | 10mL Graduated Cylinder, Funnel Top, Hexagonal Base | 52-5000 A |
| GLA100-01 | 100mL Graduated Cylinder, Funnel Top, Hexagonal Base | 52-5010 A |
| GLA1CA-01 | 100mL Graduated Cylinder, Funnel Top, Hexagonal Base, Class A, Calibrated at 20°C | QLA |
| GLA250-01 | 250mL Graduated Cylinder, Funnel Top, Hexagonal Base | 52-5020 A |



GLA010-01

GLA100-01

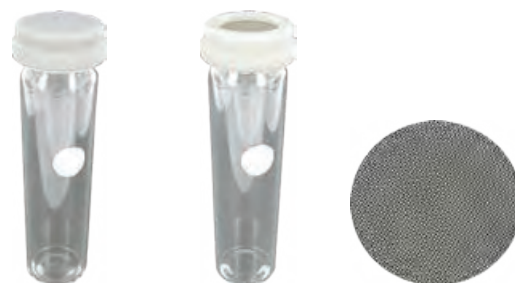
GLA1CA-01

GLA250-01

ROTATING BOTTLE APPARATUS FOR AGILENT

(INCLUDES LEGACY VANKEL)

| Part No. | Description | OEM Ref |
|------------|--|------------------|
| RBAASSY-01 | 100mL Clear Glass Bottle and Cap with Viton Liner | QLA |
| RBAASSY-02 | 100mL Clear Glass Bottle and Decant Cap with 40 Mesh SS Screen | QLA |
| RBSCRN-40 | 40 Mesh SS Screen for 100mL Decant Cap | 32-1221 A |



RBAASSY-01

RBAASSY-02

RBSCRN-40

MISC GLASS ACCESSORIES

| Part No. | Description | OEM Ref |
|-------------|--|---------|
| FLEAK-150 | 150mL Glass Fleaker, Graduated | QLA |
| FLEAK-300 | 300mL Glass Fleaker, Graduated | QLA |
| FLEAK-500 | 500mL Glass Fleaker, Graduated | QLA |
| FLEAK-01K | 1000mL Glass Fleaker, Graduated | QLA |
| FLEAKCAP-UN | Fleaker Cap fits 150mL, 300mL and 500mL fleakers | QLA |



FLEAK-150

FLEAK-300

FLEAK-500

FLEAK-01K



FLEAKCAP-UN

OEM Key

A AGILENT

DISINTEGRATION TESTING



COMPATIBLE
(INCLUDES LEGACY VANKEL)

| Part No. | Description | OEM Ref |
|---------------|--|---------|
| DISASY-03 | Basket Assembly with 3 Glass Tubes and 10 Mesh Stainless Steel Screens | 37-3030 |
| DISASY-06 | Basket Assembly with 6 Glass Tubes and 10 Mesh Stainless Steel Screens | 37-2001 |
| DISASY-P6 | Basket Assembly with 6 Plastic Tubes and 10 Mesh Stainless Steel Screens | QLA |
| DISTUB-06 | Glass Replacement Tubes for 6 Tube Assembly, 25mm (Set/6) | 37-5000 |
| DISTUB-P6 | Plastic Replacement Tubes for 6 Tube Assembly, 25mm (Set/6) | QLA |
| DISTUB-03 | Glass Replacement Tubes for 3 Tube Assembly, 38mm (Set/3) | 37-5005 |
| FDISC-VK | USP Fluted Plastic Disks for 6 Tube Assembly (Set/6) | 37-4000 |
| DISDISK-03 | USP Fluted Plastic Disks for 3 Tube Assembly (Set/3) | 37-4010 |
| DISSCR-VK10 | 10 Mesh Stainless Steel Screens for 6 Tube Assembly (Set/6) | 37-2200 |
| DISSCR03-VK10 | 10 Mesh Stainless Steel Screens for 3 Tube Assembly (Set/3) | QLA |
| GLA900-DB | 900mL Clear Glass Disintegration Beaker, Flared Top | 37-5200 |
| GLA905-DB | 900mL Clear Glass Disintegration Beaker, Flat Top | 37-5305 |



DISASY-03



DISASY-06, DISASY-P6



DISTUB-03



DISTUB-06, DISTUB-P6



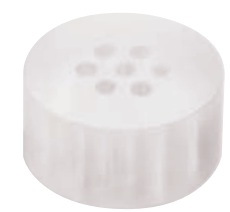
GLA900-DB



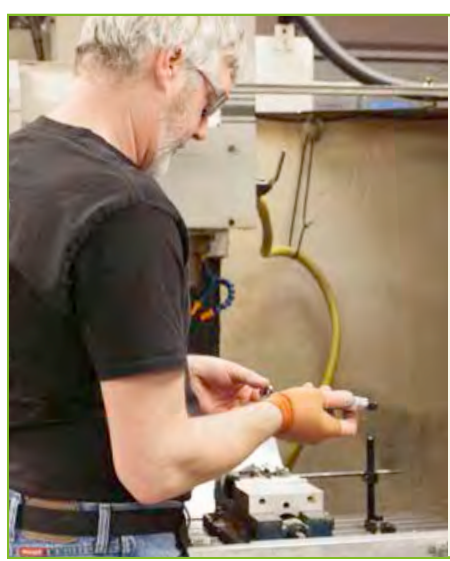
GLA905-DB



FDISC-VK



DISDISK-03



QLA Superior Quality Control

All manufacturing is performed on-site by experienced machinists where we manufacture under strict ISO 9001 standards and have 100% control over product quality.



QLA Main Office: Telford, PA
Tel 908-685-7500, Fax 908-526-4151, Toll Free: 855-QLA-LABS (855-752-5227)

YOUR DISSOLUTION SPECIALISTS



QUALITY LAB ACCESSORIES

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