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Products listed under the companies below are compatible with their instrumentation.

Agilent™ (VanKel)/Varian, Beckman, Bruker, CTC/Leap, Distek, Hanson Research, Perkin Elmer, Shimadzu, Sotax, Waters

Quartz Spectrophotometer Cells

Chrom4 Quartz Cuvettes (cells) and Glass Cells

Chrom4 manufacturing, has many years experience in the production of accessories for UV-Vis-NIR spectroscopy to meet all standard procedures found in analytical, clinical and research laboratories, especially QA environments.

A wide range of cells specifically designed for spectrophotometers are available from path lengths of 1mm through to 100mm.

Quartz Cells

- **Traceable**
- **Calibrated**
- **Certified reference material**



What is calibration?

Calibration is the process of establishing how the response of a measuring device varies with respect to the instrument parameter being measured. The usual way to perform calibration is to measure the parameter (e.g. using a reference material) and monitor the instrument response

There are three basic designs of aperture. Path lengths below 1mm are measured interferometrically. The rectangular cells are serial numbered and fully traceable.



Why is calibration important?

Place any equipment in the environment of choice, and immediately the chosen environment will begin to act on that equipment causing change and ultimately degradation in performance. This so called drift causes your results to become unreliable and no longer "fit for their intended purpose". While drift cannot be eliminated it can be detected and contained through the process of calibration. In the pharmaceutical industry, a system where drift has occurred to an unacceptable level is deemed to be "out of control".

By inference, this same environment will also act on your Certified Reference Materials, depending on how they are stored, etc. These materials must be checked/re-certified to ensure that the values on which you are depending have not also significantly changed.

Ordering Information - Quartz Cells and Reference Standards For Agilent, Buck Scientific, Hitachi, Jasco, Shimadzu, Thermo Scientific and PerkinElmer

Part No. (each)	Description
Rectangular Cells	
C4QC-1	1 mm UV Quartz Cell
C4QC-2	2 mm UV Quartz Cell
C4QC-5	5 mm UV Quartz Cell
C4QC-10	10 mm UV Quartz Cell
C4QC-20	20 mm UV Quartz Cell
C4QC-40	40 mm UV Quartz Cell
C4QC-50	50 mm UV Quartz Cell
C4QC-100	100 mm UV Quartz Cell



**Reference materials, Spectrophotometer Fluorimeter
Colorimeter and flow cells soon available from Chrom4!**

Introduction to Dissolution

Dissolution Essentials - Chrom4: The Dissolution Essential Specialists

CHROM4 fulfills the various needs of the dissolution industry by carrying a full line of consumables and accessories for various brands and models of dissolution testing machines.

CHROM4 produces the highest quality products to the entire pharmaceutical industry. All of their products are both USP and machine manufacturer compliant.

The product line consists of items specifically designed to fit the many different brands of dissolution testing equipment. Dissolution Essentials manufactures products dedicated to specific instruments, such as Distek, Sotax, VanKel and Hanson.

In this section, we have included the most common dissolution accessories.

For more product information, please browse our website and discover why CHROM4 is the superior alternative for dissolution essentials.

What can you expect from us?

- Baskets
- Basket Shafts
- Cannula Filters
- Capsule Sinkers
- Disintegration Testing
- Dissolution Media
- Dissolution Vessels
- Intrinsic Dissolution
- Paddles
- Sampling Cannula
- Spin Shaft Accessories•
- Tubing
- USP Apparatus 3
- USP Apparatus 5 & USP Apparatus 6

For more information, please contact us!
www.CHROM4.com



As well as Caleva, Caliper LifeSciences (Zymark),
Electrolab, Erweka, Logan, Pharmatest and Toyama

*CHROM4 is not affiliated with any of the companies listed above, or their products.
Products listed under the companies above are compatible with their instrumentation.*

Vessels and Covers

Vessels

Some suppliers offer “one size” generic vessels for all dissolution baths, however, replacing a vessel with one not specifically designed for the instrument could impair vessel centering. Also, larger or smaller vessel inside diameters can change hydrodynamics. Both variables could impact dissolution rates.

CHROM4 dissolution vessels comply with USP (711) and with the associated original equipment manufacturers dimensional specifications. This is extremely important because the vessels associated with various dissolution baths are not dimensionally the same.

High Precision Vessel

vessels provide ultimate dimensional accuracy

- Sphericity less than .10mm
- Spherical radius 50.03+/- 0.08mm
- Cylindricity less than 0.17mm

High Precision vessels offer ultimate control of dissolution variables and assist with dissolution instrument calibration to ASTM E 2503-07 requirements.

Key Features:

- Fits directly into the dissolution bath
- Does not require Centering Ring
- Comes standard with individual certificates
- Inside bottom extremely close to true hemisphere - Sphericity
- Extremely low tolerance of radius of inside bottom
- Inside cylindrical body extremely close to true circle - Circularity
- Agreement of both centers of cylindrical body and bottom - Concentricity
- Inside cylindrical body extremely close to true cylinder - Cylindricity
- Vessel center nearly perfect vertical and guaranteed by the concentricity
- Extremely low tolerance of inside diameters of cylindrical body
- Extremely low vessel-to-vessel variation in configuration
- ASTM, USP, BP, EP, JP and associated pharmacopeia compliant

NEW
Toyama Vessels
Now Available

Ordering Information - High Precision Vessel

Part No. (each)	Description
C4-C900ASTM	ASTM High Precision Vessel
C4-A900ASTM	ASTM Amber High Precision Vessel



C4-C900ASTM



C4-A900ASTM



C4-DKC900PS

Ordering Information - Dissolution Vessels and Covers

Part No. (each)	Description	OEM
Distek		
C4-DKC900PS	Serialized 1000mL Premier Glass Vessel (no centering ring for use in waterless bath dissolution systems)	-
C4-DKC900S	1000mL Clear Glass Vessel, No Ring, Serialized	3010-0069
C4-DKA900S	1000mL Amber Glass Vessel, No Ring, Serialized	-
C4-DKA900CRS	1000mL Amber Glass Vessel, Centered, Serialized	3010-0023
C4-DKC900CRS	1000mL Clear Glass Vessel, Centered, Serialized	3010-0093
C4-DKPCR	Plastic Centering Ring for Distek Vessels	3350-0096
C4-DKCHC	Clear Hinged Cover	3250-0089
Agilent (formerly VanKel/Varian)		
C4-VKC900S	1000mL Clear Glass Vessel, Serialized	12-5000
C4-VKA900S	1000mL Amber Glass Vessel, Serialized	12-5010
C4-VKC900CRS	1000mL Clear Glass Vessel, Centered, Serialized	12-5035
C4-VKA900CRS	1000mL Amber Glass Vessel, Centered, Serialized	12-5020
C4-VKCCS	Clear Cover w/Paddle Slot	12-6300
C4-VKACS	Amber Cover w/Paddle Slot	12-6320
Hanson		
C4-HAC900S	1000mL Clear Glass Vessel, Serialized	72-600-510
C4-HAA900S	1000mL Amber Glass Vessel, Serialized	72-600-556
Sotax		
C4-SXC900S	1000mL Clear Glass Vessel, Serialized	2503
C4-SXA900S	1000mL Amber Glass Vessel, Serialized	2503-2

Other vessel sizes available.

We supply dissolution vessels & covers for other dissolution testing (Caleva, Erweka, Pharmatest and Zymark). Please enquire.



C4-DKPCR

Ordering Information - Vessel Adaptor Ring

Bath Manufacturer	Model No.	Description	OEM	Part No. (each)
Hanson	SR8+	Multi-Dose Centering Ring	69606	C4-HAVAR69606
Distek	2100 A, B & C	Plastic Centering Ring	3350-0096	C4-DKPCR

Baskets, Shafts and Paddles

Baskets, Shafts and Paddles

CHROM4 offers both clip-on style and O-ring style baskets & basket shafts for most dissolution baths. Both meet the associated original equipment manufacturers dimensional specifications. Both clip style and O-ring style baskets comply with USP (711) specifications. All CHROM4 baskets are made from electropolished, sintered 316 stainless steel. The sintering process essentially creates a welded joint at each overlapping wire junction. Sintered baskets are stronger and last longer. They retain original dimensions and geometry and resist wobble. Clip-on style shafts utilize a proprietary, spring tempered clip, which retains the original gripping tension far longer than conventional shafts.

CHROM4 offers electropolished 316 stainless steel paddles.

Clip style and O-ring style shafts & paddles are precisely manufactured to limit rotational wobble to levels far below USP (711) specifications.



Ordering Information - Baskets, Shafts and Paddles

Part No. (each)	Description	OEM
Distek		
C4-DKBSK040	40 Mesh Basket (USP Standard Size Mesh)	2821-0072
C4-DKBSK040ES	40 Mesh Basket (USP Standard Size Mesh), Evolution Series	2800-0032
C4-DKBSPOS	16.5" Basket Shaft, 316 SS, O-Ring/Push On Style	2821-0074
C4-DKBSSCS	16.5" Basket Shaft, 316 SS, Spring Clip Style	-
C4-DKDS	16.5" Detachable Shaft, 316 SS	2800-0165
C4-DKBAES	Basket Adapter for Evolution Series Only	3200-0038
C4-DKBCES	Basket Clip for Evolution Series Only	3100-0017
C4-DKPDE	16.5" Paddle, 316 SS, Electropolished	2800-0010
Agilent (formerly VanKel/Varian)		
C4-VKBSK040	40 Mesh Basket (USP Standard Size Mesh)	12-2100
C4-VKBSKPL040	40 Mesh Precision Length Basket (USP Standard Size Mesh)	-
C4-VKBSSCSV	14.5" Basket Shaft, 316 SS, Spring Clip Style for V-Series	12-2073
C4-VKBSSCS	15" Basket Shaft, 316 SS, Spring Clip Style	12-2070
C4-VKBSCPOS	15" Conical Basket Shaft, 316 SS, O-Ring/Push On Style	12-2050
C4-VKPDEV	14.5" Paddle, 316 SS, Electropolished for V-Series	12-1035
C4-VKPDSE	15" Paddle, 316 SS, Electropolished	12-1030
Hanson		
C4-HABSK040	40 Mesh Basket (USP Standard Size Mesh)	65-220-000
C4-HABSSCS	16" Basket Shaft, 316 SS, Spring Clip Style	65-237-000
C4-HAPDE	16" Paddle, 316 SS, Electropolished	65-700-036
Sotax		
C4-SXBSK010	10 Mesh Basket (USP Standard Size Mesh)	-
C4-SXBSK020	20 Mesh Basket (USP Standard Size Mesh)	9353
C4-SXBSK040	40 Mesh Basket (USP Standard Size Mesh)	2830
C4-SXBSKSUP	Suppository Basket, Plastic	-

Other basket and basket shaft sizes and styles available. Paddles are also available in different sizes and PTFE coated or molded PTFE. Please enquire.

Dissolution Basket Storage

Prolong the life of baskets and save money

To ensure they meet USP requirements, it is essential that for all tests, baskets are not bent or deformed. The chances of accidentally damaging baskets can be significantly reduced with the use of a good quality basket holder, such as C4-SDBH-12.

Key Benefits:

- Compatible with all popular basket types (Caleva, Distek, Erweka, Hanson, Pharmatest, Sotax, VanKel, Zymark)
- O-rings ensure baskets are held firmly to the holder
- Stores up to 12 baskets
- Fully stackable, letting you transport many baskets at a time
- Low cost, it pays for itself by preventing damage to just one basket!



Ordering Information

Part No. (ea)	Description
C4-SDBH-12	Stackable Dissolution Basket Holder

Sampling Cannula and Cannula Filters

Sampling Cannula and Cannula Filters

CHROM4 offers traditional manual and automated sampling cannula for most dissolution baths. In addition to "traditional" cannula, CHROM4 offers an extensive selection of "innovative", DE designed cannula. These cannula include PEEK cannula, improved filter housing cannula and a low cost cannula which offers significant cost savings without sacrificing quality.

Probe tip filters for most sampling methods are available in numerous micron ratings (from 1um to 70um) and they are available in packs of 1000 or 100. These filters are made from inert, high-density polyethylene. All CHROM4 filters have been specifically formulated to provide the specified micron ratings.

All formulations have been verified by porisometer testing.

Ordering Information - ChromFlo

Part No. (each)	Description	SUN-SRi Equivalent
C4-PL010	10 Micron Porous Filters, (JAR/1000)	400105
C4-PL035	35 Micron Porous Filters, (JAR/1000)	400102
C4-PL070	70 Micron Porous Filters, (JAR/1000)	400107

Ordering Information - Sampling Cannula and Cannula Filters

Part No. (each)	Description	OEM
Distek		
C4-DKSSP900	900mL Standard Sampling Probe	2910-0900
C4-DKSSP900-SH	900mL Standard Sampling Probe, Solid Housing	2910-0906
C4-DKFD010	10 Micron Filter Disks, (JAR/1000)	5720-0203
C4-DKFIL010	10 Micron Porous Filters, 1/16", (JAR/1000)	5720-0275
C4-DKFD045	45 Micron Filter Disks, (JAR/1000)	5720-0275
C4-DKFIL045	45 Micron Porous Filters, 1/16", (JAR/1000)	5720-0020-1000
C4-DKFIL070	70 Micron Porous Filters, 1/16", (JAR/1000)	5720-0503
Agilent (formerly VanKel/Varian)		
C4-VKCAN	4.75" (900mL) Bent 316 SS Cannula w/SS luer lock	12-3200
C4-VKCANAS	4.5" (900mL) Auto-Sampling Cannula	17-3300
C4-VKFIL010	10 Micron Porous Filters, (JAR/1000)	17-4000
C4-VKFIL045	45 Micron Porous Filters, (JAR/1000)	-
C4-VKFIL070	70 Micron Porous Filters, (JAR/1000)	17-4020
C4-VKFT010	10 Micron Filter Tips, (JAR/1000)	17-4120
C4-VKFT045	45 Micron Filter Tips, (JAR/1000)	17-4140
Hanson		
C4-HACANPT	4.75" (900mL) Bent 316 SS Cannula w/SS perm tip	-
C4-HACAN	4.75" (900mL) Bent 316 SS 1/8" OD Cannula w/SS luer lock	95-590-002
C4-HACANPEEK	4.75" (900mL) Bent PEEK 1/8" OD Cannula w/PEEK luer lock	95-590-005
C4-HAFIL010	10 Micron Porous Filters, (JAR/1000)	27-101-091
C4-HAFIL010-16	10 Micron Porous Filters, 1/16", (JAR/1000)	27-101-093
C4-HAFIL045	45 Micron Porous Filters, (JAR/1000)	-
C4-HAFIL045-16	45 Micron Porous Filters, 1/16", (JAR/1000)	-
C4-HAFIL070	70 Micron Porous Filters, (JAR/1000)	27-101-092
C4-HAFIL070-16	70 Micron Porous Filters, 1/16", (JAR/1000)	27-101-094
Sotax		
C4-SXCANLA	13" (900mL) Bent 316 SS Cannula w/luer adapter	
C4-SXCANSTS	13" (900mL) 316 SS 1/8" OD Cannula w/stopper and sleeve	
C4-SXFIL010	10 Micron Porous Filters, (JAR/1000)	-
C4-SXFIL035	35 Micron Porous Filters, (JAR/1000)	-
C4-SXFIL070	70 Micron Porous Filters, (JAR/1000)	-

Cannula stoppers and other sampling cannula and cannula filters also available. Please enquire.



C4-HACAN



Distek Filter Disc



Distek Cannula Filter

Sinkers, Basket Shafts and Vessel Stands

Sinkers



C4-VKPCS

C4-VKBSK-JP



CHROM4 offers the most extensive selection of tablet and capsule sinkers available from a single source. Their family of sinkers includes most configurations currently in use worldwide, including helical style, basket style, three-prong style and others.

Ordering Information - Sinkers

Part No. (each)	Description	OEM
Agilent (formerly VanKel/Varian)		
C4-VKPCS	3 Prong Capsule Sinkers, Plastic	12-3050
C4-VKBSK-JP	Japanese Pharmacopeia Basket Sinkers	12-3070
Sotax		
C4-SXSSCS-4	4 Spring Style Capsule Sinkers, 316 SS	8280
C4-SXSSCS-5	5 Spring Style Capsule Sinkers, 316 SS	7346
C4-SXSSCS-6	6 Spring Style Capsule Sinkers, 316 SS	8283
C4-SXSSCS-7	7 Spring Style Capsule Sinkers, 316 SS	6881
C4-SXSSCS-10	10 Spring Style Capsule Sinkers, 316 SS	7349
C4-SXORS	O-Ring Sinkers, 316 SS	8399

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 all 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



Ordering Information

Part No.	Description
C4-PDLHLD-12	12 Piece Dissolution Paddle Holder

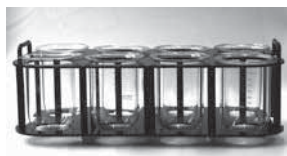
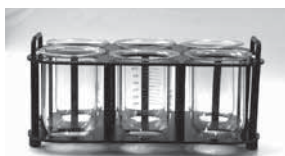
Universal Vessel Stands

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 steel/acrylic 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.



Ordering Information Tubing

Part No. (each)	Description
C4-UVS-6	Vessel Stand, 6 Position
C4-UVS-8	Vessel Stand, 8 Position

Part No. (ea)	Description	OEM
DE		
C4-PSTFEP	FEP PTFE Tubing for HP 1/32" (0.8mm) ID x 1/16" (1.6mm) OD, 500' (152m) Roll	-
C4-PSTTYG	Tygon Tubing, 1/16" (1.6mm) x 1/8" (3.2mm) (15m)	-
Distek		
C4-DKPPTSA-6	Peristaltic Pump Tubing, Santoprene (Set of 6)	5640-0337
C4-DKTAAT-12	3 Collar Tygon Auto Analyser Tubing, 0.08" (2.06mm) ID (Set of 12)	5041-2166
VanKel (Agilent/formerly Varian)		
C4-VKPPTSA-8	Peristaltic Pump Tubing, Silicone, Coded Purple & White (Set of 8)	17-6010
C4-VKPSTTY	Colour Coded Sample PTFE Tubing, 0.42" (10.67mm) ID x 0.066" (1.68mm) OD, 8 Lengths of 50' (15m)	17-6035



FUTURE DEVELOPMENTS:

Sample Transfer



DataM8Riks



Ritter Robotic Tips

Biolink: Durable U(H)PLC Fittings



Electron Multipliers



DT-2300A
(Agilent GC-MS)

(U) HPLC-MS Columns:



Bulk Silica





MODEL 2003 DEGASSER

Eliminates troubles with bubbles

Get rid of dissolved gases with the latest technology

Secure your analysis with our on-line degasser

- Fits every system
- Only 480µl internal volume due to Systec AF degassing membrane
- Extremely quiet
- Long life expectancy – 5 years continuous running capacity
- Pump head purge eliminates need for purging valve
- Eliminate baseline fluctuations due to the ZHCR® (Zero Hysteresis Constant Run) stepper motor driven vacuum pump
- Closed loop vacuum control means constant vacuum (variable RPM)
- Advanced error and leak checking functions

General specifications

Internal Channel Volume: 480 microliter
 Wetted Parts: PEEK and Systec AF
 Properties (HxWxD): 5.0 x 2.87 x 9.81 in.
 (127 x 73 x 249 mm)

Part Number	No of channels
CHR-0001-6352-A	2
CHR-0001-6353-A	3
CHR-0001-6354-A	4
CHR-0001-6355-A	5

GPC compatible degassers

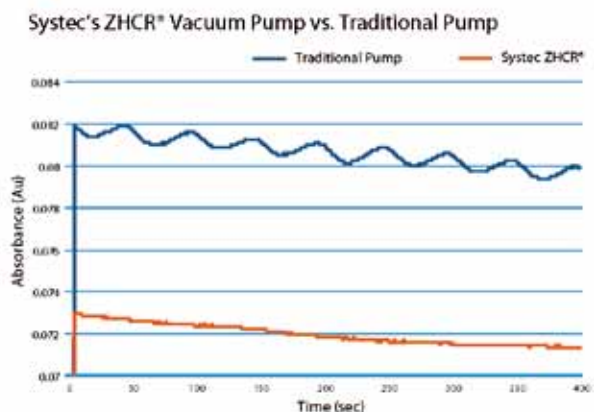
For GPC or Normal Phase Chromatography we recommend our line of degassers with stented vacuum chambers. Other specifications as above

Part Number	No of channels
CHR-0001-6622	2
CHR-0001-6624	4

Other options available upon request. Degassing chambers with 100µl or 925µl internal volume are available, as well as 8-channel degassers.



The degasser with the smoothest baseline on the market



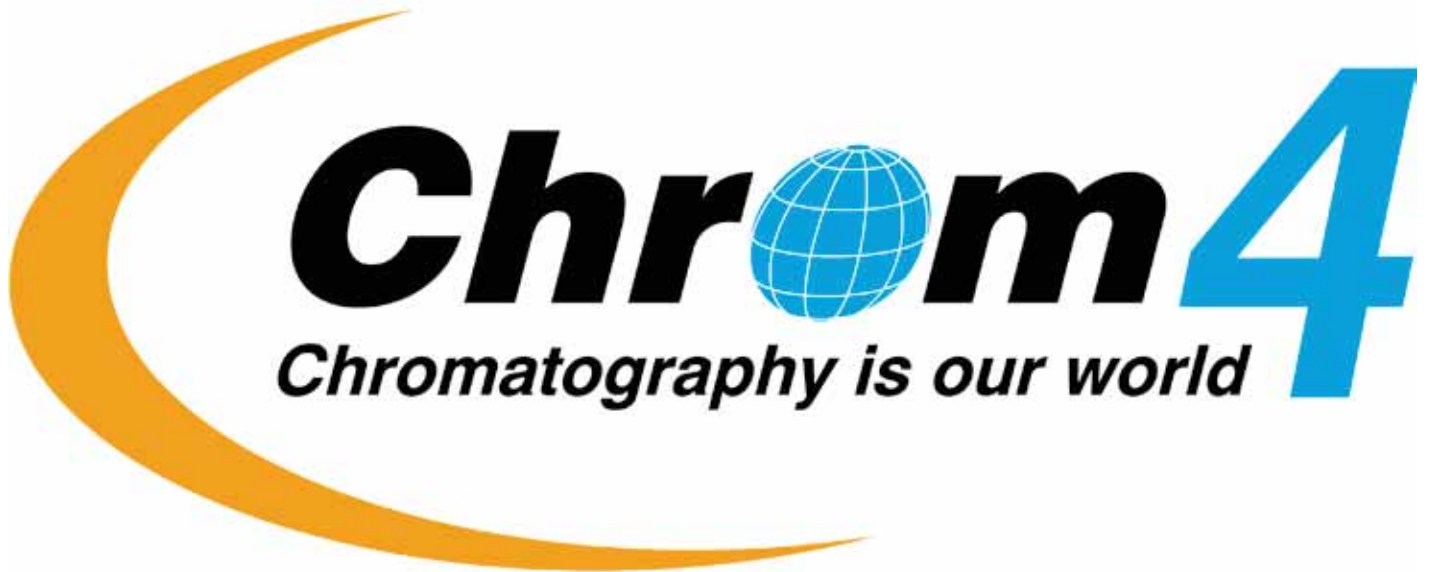
Fluctuations in detector baseline of a single-speed pump compared to the patented technology of the Systec ZHCR vacuum pump.* UV detector baseline fluctuations are minimal when compared to traditional stop and start vacuum sources.

1) Sample Handling

2) Sample Preparation

3) Columns

4) Accessories



Your local CHROM4 distributor:



IGZ Instruments AG
Furtbachstrasse 17
8107 Buchs ZH

Tel. +41 44 456 33 33
igz.ch igz@igz.ch

www.chrom4.com

**CHROM4 GmbH, Hauptstrasse 365, Suhl-Wichtshausen, Thüringen, Germany, D-98530
HRB, Registergericht Jena, info@chrom4.com**