

Zeta Plus[®] Models ZPC & ZPB Sanitary Filter Housings



Fluid Purification



Zeta Plus Sanitary Housings: ZPC (left) & ZPB (right).

Zeta Plus Generation 2 sanitary housings provide the ultimate standard for totally-enclosed Zeta Plus filter cartridge systems. Constructed from 400 grit, mirror finish, 316L stainless steel, **Zeta Plus ZPC & ZPB** housings meet the exacting sanitary quality standards of the pharmaceutical, food and beverage, fine chemical, and microelectronics industries.

Both housing styles accommodate from one to four 8", 12", or 16" diameter Zeta Plus filter cartridges to offer a wide choice of filter media area and flow rates. Multiple cartridge housings can be user fitted with shorter center-posts to accommodate fewer cartridges. Consult your local CUNO distributor for more information about center-post choices.

Two housing closure systems are available. The **ZPC** design uses a quick-release clamp to secure the housing dome to the base for operation to 75 psi (5 bar). The **ZPB** design uses fast-action swing bolt closures to secure the housing dome to the base for operation to 150 psi (10 bar). Both incorporate a state of the art, spring-loaded cartridge sealing system to ensure system integrity.

Model ZPC	Quick-release clamp design	Rated to 75 psi @ 200° F (5 bar @ 90° C)
Model ZPB	Fast action swing bolt design	Rated to 150 psi @ 200° F (10 bar @ 90° C)

ZPC & ZPB standard housing models include a center-post with sealing system, downstream sanitary check valve, upstream bleed valve, and silicone gaskets/o-rings. Pressure gauges and alternative gasket and o-ring materials are available options (consult your CUNO Distributor).

CUNO[®] FILTER SYSTEMS

CUNO is a USA based multi-national organization with manufacturing facilities providing global product availability and consistent quality through trained distributors and field specialists who understand the unique requirements of the pharmaceutical, food and beverage, fine chemical, and microelectronic industries. CUNO provides quality solutions for the most challenging filtration applications. CUNO filtration systems include patented industry leading Zeta Plus cartridge filters, stainless steel housings, engineered systems, and membrane filter cartridges.

FEATURES

- ◆ Totally enclosed depth-cartridge filtration with fast and easy cartridge change-out
- ◆ Positive spring-loaded cartridge sealing system
- ◆ Systems can be integrity tested *in situ*
- ◆ Housings accommodate one to four 8", 12" or 16" cartridges
- ◆ Mirror finish sanitary 316L stainless steel construction*
- ◆ Supplied with integral sanitary vent and outlet check valve
- ◆ User friendly vertical design with Tri-Clover[®] connections

BENEFITS

- ◆ Eliminates external contamination, edge leakage, loss of valuable product, and long tedious change-out times associated with plate and frame filter presses
- ◆ Provides optimal sealing compression to prevent filter bypass even under the most arduous process conditions
- ◆ Ensures proper cartridge installation and system integrity
- ◆ Suitable for small through large batch sizes and aqueous flows from 2 to 75 gpm (500 to 17,000 lph) per housing
- ◆ Reduces bacterial/particle adhesion
- ◆ Provides a single source system solution
- ◆ Requires minimum floor space and quickly dismantles for easy cleaning

*Optional surface finishes available

SPECIFICATIONS

	HOUSING MODEL	
	ZPC	ZPB
Maximum Operating Pressure	75 psi @ 200°F (5 bar @ 90°C)	150 psi @ 200°F (10 bar @ 90°C)
Materials of Construction		
Base, Dome, Internals	316L stainless steel	316L stainless steel
Sealing System	316L stainless steel and polypropylene	316L stainless steel and polypropylene
Clamps/Bolts	304 stainless steel	304/316 stainless steel
O-ring/Gaskets	Silicone	Silicone
Closure	Quick-release clamp	Fast action swing bolts
Inlet / Outlet Connection Sizes		
8ZP	1 1/2" Tri-Clover	1 1/2" Tri-Clover
12ZP	1 1/2" Tri-Clover	1 1/2" Tri-Clover
16ZP	2" Tri-Clover	2" Tri-Clover
Options (see Ordering Guide)	Gaskets: EPR, fluorocarbon, and nitrile. Pressure gauges	

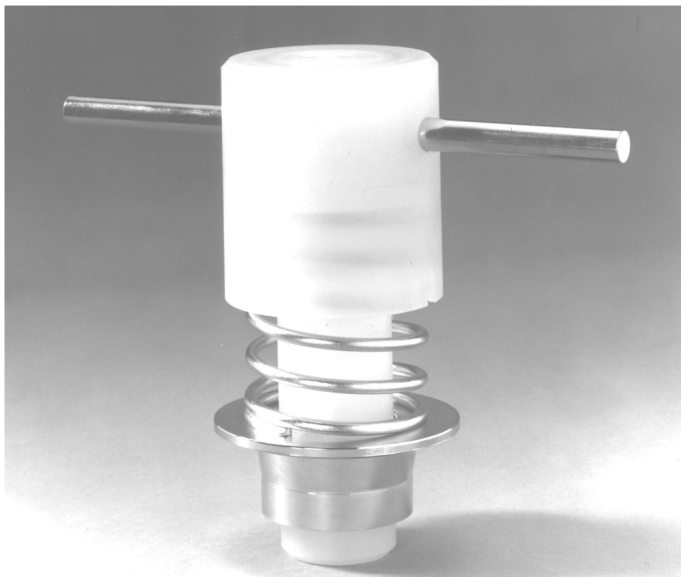
ZPB & ZPC Cartridge Requirements and Flow Rates

Housing Model	Cartridge Dimensions Nominal (in/mm)		Number of Cartridges	Media Area (ft ² / m ²)	Flow Rates * (GPM/LPH)
	Diameter	Height			
8ZPC1/8ZPB1	8/180	6.6/170	1	3.5/0.3	2/500
8ZPC2/8ZPB2			2	7/0.7	4/900
8ZPC3/8ZPB3			3	10.5/1.0	5/1,100
8ZPC4/8ZPB4			4	14/1.3	7/1,600
12ZPC1/12ZP1	12/290	10.75/270	1	16/1.5	8/1,800
12ZPC2/12ZP2			2	32/3.0	16/3,600
12ZPC3/12ZP3			3	48/4.0	24/5,400
12ZPC4/12ZP4			4	64/6.0	32/7,200
16ZPC1/16ZPB1	16/410	10.75/270	1	37/3.5	19/4,300
16ZPC2/16ZPB2			2	74/7.0	37/8,400
16ZPC3/16ZPB3			3	111/10.5	56/12,700
16ZPC4/16ZPB4			4	148/14.0	74/16,800

*Recommended flow rates are based on 1/2 GPM /ft² of media installed. Actual flow rates may vary based on many factors such as medium type, temperature, viscosity and contamination level of the fluid being filtered, and housing connections.

Cartridge Sealing System

A spring-loaded sealing system (sealing nut shown below) provides optimal sealing compression to prevent filter bypass even under the most arduous process conditions.



System Integrity

ZPB and ZPC systems can be tested *in situ* to ensure proper cartridge installation and system integrity. CUNO procedures

specify either manual or electronic test protocols. Ask for literature LITTDIQ.

WHAT IS ZETA PLUS?

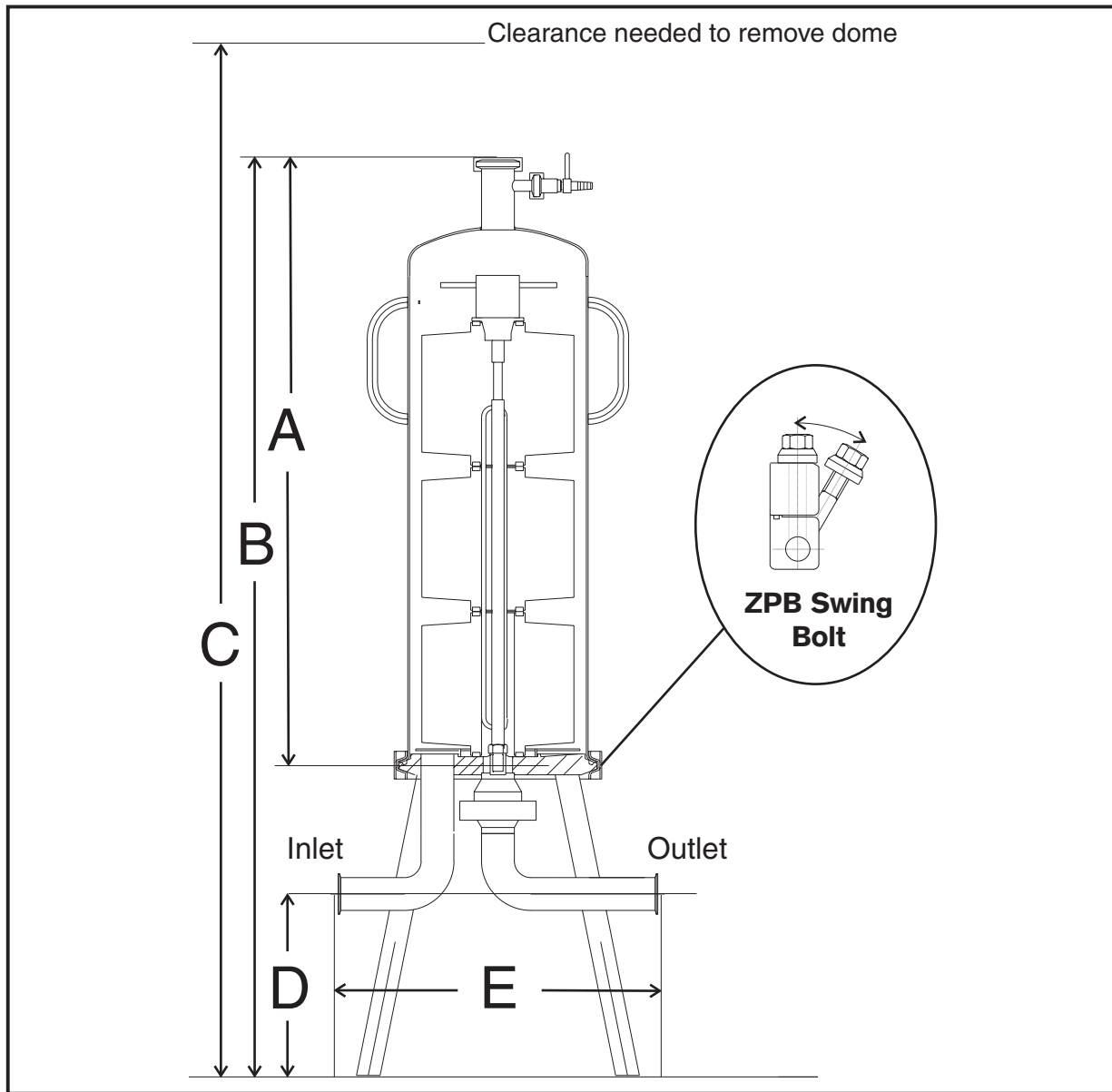
Zeta Plus is a family of patented filtration media composed of industry-accepted filter aids embedded in a cellulose fiber matrix. During the manufacturing process, molecules carrying a positive charge are chemically bonded to the matrix components, permanently forming an interconnected, rigid filter sheet with positively charged electrokinetic capture sites capable of retaining bacteria, endotoxins, cellular debris and submicronic contaminants to a level which mechanical screening alone cannot achieve. Zeta Plus filter cartridges are available in a variety of media formulations and retention ratings designed to meet the needs of the pharmaceutical, food and beverage, fine chemicals, and micro-electronics industries. For more information about Zeta Plus media choices, consult your local CUNO distributor.



Advantages of the Zeta Plus Cartridge System Over a Filter Press

Zeta Plus cartridge systems offer several advantages compared to conventional plate and frame filters. A cartridge system is totally enclosed, with no product leakage and no exposure of the filter medium to external contamination.

- Once sanitized, Zeta Plus housings and cartridges remain sanitized for the entire filtration process. Plate and frame filters must be sanitized more frequently resulting in higher operating costs and shorter filter lifetimes.
- Zeta Plus cartridges are easy to install and remove, usually taking one person 15 minutes to change-out a complete housing with up to several hundred square feet of filter area. Plate and frame filters typically require two people four to eight hours to change the sheets.
- In many plants, floor space is at a premium. Vertical Zeta Plus housings occupy only a fraction of the floor space required by a plate and frame filter.
- The initial installed capital cost for a Zeta Plus cartridge system is about half of that for a plate and frame filter with comparable capacity.



STANDARD MODEL WEIGHTS AND DIMENSIONS

Housing Model	Approximate Weight (lb/kg)		Dimensions (inches - millimeters)				
	ZPC	ZPB	A Height of Dome	B Height of Housing	C Clearance Needed	D Height of Flange	E Width
8ZPC1/8ZPB1	35/16	60/27	13 1/16 - 332	27 3/8 - 695	35 1/2 - 900	8 1/4 - 210	14 9/16 - 370
8ZPC2/8ZPB2	40/18	65/29	19 3/4 - 502	34 1/16 - 865	47 1/4 - 1200		
8ZPC3/8ZPB3	44/20	69/31	27 1/4 - 692	41 1/2 - 1055	63 3/8 - 1610		
8ZPC4/8ZPB4	49/22	74/34	37 1/16 - 942	51 3/8 - 1305	83 1/4 - 2115		
12ZPC1/12ZPB1	70/32	115/52	18 5/8 - 473	33 1/8 - 842	52 - 1320	8 1/4 - 210	15 11/32 - 390
12ZPC2/12ZPB2	84/38	129/59	30 1/4 - 768	44 3/4 - 1137	74 - 1880		
12ZPC3/12ZPB3	100/45	145/66	39 5/8 - 1007	54 3/16 - 1376	94 1/2 - 2400		
12ZPC4/12ZPB4	115/52	160/73	52 3/8 - 1331	66 15/16 - 1700	118 1/8 - 3000		
12ZPC4*	115/52	N/A	52 3/8 - 1331	66 15/16 - 1700	86 5/8 - 2200		
16ZPC1/16ZPB1	161/73	214/97	18 5/8 - 473	33 15/16 - 862	52 3/4 - 1340	8 1/4 - 210	20 5/8 - 524
16ZPC2/16ZPB2	183/83	236/107	30 1/4 - 768	45 9/16 - 1157	74 3/4 - 1900		
16ZPC3/16ZPB3	201/91	254/115	39 5/8 - 1007	54 15/16 - 1396	95 1/4 - 2420		
16ZPC4/16ZPB4	225/102	278/126	52 3/8 - 1331	67 3/4 - 1720	118 1/8 - 3000		
16ZPC4*	225/102	N/A	52 3/8 - 1331	67 3/4 - 1720	86 5/8 - 2200		

Dimensions are for rough plumbing estimates only; for other details, please contact CUNO U.S.

*These housings utilize two-piece domes that allow easy installation and removal.

ZPC & ZPB HOUSING ORDERING GUIDE

FOR ZPC HOUSING MODEL *	ORDER CATALOG NUMBER
8ZPC1	45270-01
8ZPC2	45270-02
8ZPC3	45270-03
8ZPC4	45270-04
12ZPC1	45272-01
12ZPC2	45272-02
12ZPC3	45272-03
12ZPC4	45272-04
12ZPC4**	45272-05
16ZPC1	45274-01
16ZPC2	45274-02
16ZPC3	45274-03
16ZPC4	45274-04
16ZPC4**	45274-05

FOR ZPB HOUSING MODEL *	ORDER CATALOG NUMBER
8ZPB1	45334-01
8ZPB2	45334-02
8ZPB3	45334-03
8ZPB4	45334-04
12ZPB1	45335-01
12ZPB2	45335-02
12ZPB3	45335-03
12ZPB4	45335-04
16ZPB1	45336-01
16ZPB2	45336-02
16ZPB3	45336-03
16ZPB4	45336-04

* Supplied with standard Silicone Gaskets

** Indicates two-piece dome.

ZPC & ZPB Options Ordering Guide

ZPB & ZPC Housings are available as complete sanitary systems including piping, valves, pressure gauges, optional feed loops, C.I.P. capabilities and skid-mounted mobile systems for single source system solutions. For more information, please contact your local CUNO distributor.

APPLICATIONS SUPPORT - SASS

CUNO's Scientific Applications Service Support (SASS) is staffed by scientists and engineers, with state-of-the-art laboratory facilities. SASS staff, familiar with pharmaceutical, food and beverage, fine chemicals, and micro-electronics filtration and separations, work closely with customer applications to recommend the most effective and economical CUNO filtration system.

Your Local CUNO Distributor is:

WARRANTY

Seller warrants its equipment against defects in workmanship and material for a period of 12 months from date of shipment from the factory under normal use and service and otherwise when such equipment is used in accordance with instructions furnished by Seller and for purposes disclosed in writing at the time of purchase, if any. Any unauthorized alteration or modification of the equipment by Buyer will void this warranty. Seller's liability under this warranty shall be limited to the replacement or repair, F.O.B., point of manufacture, of any defective equipment or part which, having been returned to the factory, transportation charges prepaid, has been inspected and determined by Seller to be defective.

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EITHER EXPRESSED OR IMPLIED, AS TO DESCRIPTION, QUALITY, MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE OR USE, OR ANY OTHER MATTER. Under no circumstances shall Seller be liable to Buyer or any third party for any loss of profits or other direct or indirect costs, expenses, losses or consequential damages arising out of or as a result of any defects in or failure of its products or any part or parts thereof or arising out of or as a result of parts or components incorporated in Seller's equipment but not supplied by the Seller.

Service Worldwide

Visit us at www.cuno.com for more information
about CUNO Products or the location of your local sales office



Fluid Purification

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