

Zeta Plus™ Model ZPB Sanitary Filter Housing



Zeta Plus™ Model ZPB sanitary filter housings provide the ultimate standard for totally-enclosed Zeta Plus cartridge filtration systems. Constructed from mirror polished 316L stainless steel, Zeta Plus ZPB filter housings meet the exacting sanitary quality standards of the pharmaceutical, food and beverage, fine chemical, and microelectronics industries.

Standard Zeta Plus ZPB filter housings accommodate from one to four 8", 12", or 16" diameter standard 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.

3M Purification Inc. Zeta Plus filter housings are available in a wide range of customized formats, including certification to ASME and other code certifications, multi-cartridge, multi-round housings, and fully automated filter skids and carts. Consult 3M Purification Inc. for assistance on specialized Zeta Plus filter housings.

| FEATURES | BENEFITS |
|---|---|
| <ul style="list-style-type: none"> ■ Totally enclosed depth-cartridge filtration with fast and easy cartridge change-out | <ul style="list-style-type: none"> ■ Eliminates external contamination, edge leakage, loss of valuable product, and long tedious change-out times associated with plate and frame filter presses |
| <ul style="list-style-type: none"> ■ Positive spring-loaded cartridge sealing system | <ul style="list-style-type: none"> ■ Provides optimal sealing compression to prevent filter bypass even under the most arduous process conditions |
| <ul style="list-style-type: none"> ■ Housings accommodate one to four 8", 12" or 16" cartridges | <ul style="list-style-type: none"> ■ Suitable for small through large batch sizes and aqueous flows from 2 to 75 gpm (500 to 17,000 lph) per housing |
| <ul style="list-style-type: none"> ■ Internal & external mirror finish sanitary 316L stainless steel construction* | <ul style="list-style-type: none"> ■ Reduces bacterial/particle adhesion |
| <ul style="list-style-type: none"> ■ User-friendly vertical design with sanitary connections | <ul style="list-style-type: none"> ■ Requires minimum floor space and quickly dismantles for easy cleaning |
| <ul style="list-style-type: none"> ■ Optional sanitary bleed valve available | <ul style="list-style-type: none"> ■ Provides easy venting |

*Model ZPB housings will also accommodate Zeta Plus EXT cartridges with modification of internal parts. Consult 3M Purification Inc. for details.

HOUSING SPECIFICATIONS

| | |
|--|--|
| Maximum Operating Pressure & Temperature | 150 psig @ 212° F 10.3 bar @ 100° C |
| Materials of Construction: | |
| Base, dome, centerpost | 316L stainless steel |
| Sealing system nut | Polypropylene |
| O-ring/gaskets* | Silicone |
| Inlet / Outlet Connections: | |
| 8ZPB, 12ZPB1 & 12ZPB2 | 1 ½" sanitary |
| 12ZPB3, 12ZPB4 & 16ZPB | 2" sanitary |
| Pressure gauge connection | 1 ½" sanitary |
| Bleed valve connection | ½" sanitary |
| Finish: | |
| External finish | Electropolished to 10Ra |
| Internal finish | Electropolished to 10Ra |

* alternative O-ring & gasket materials available - consult 3M Purification Inc..

ZETA PLUS FILTER CARTRIDGE CAPACITY

| Housing Model | Cartridge Dimensions Nominal (inches/mm) | | Number of Cartridges | Media Area (ft ² / m ²) |
|---------------|--|-----------|----------------------|--|
| | Diameter | Height | | |
| 8ZPB1 | 8/203 | 6.6/170 | 1 | 2.8/0.26 |
| 8ZPB2 | | | 2 | 5.6/0.52 |
| 8ZPB3 | | | 3 | 8.4/0.78 |
| 8ZPB4 | | | 4 | 11.2/1.04 |
| 12ZPB1 | 12/305 | 10.75/270 | 1 | 16.4/1.5 |
| 12ZPB2 | | | 2 | 32.8/3.0 |
| 12ZPB3 | | | 3 | 49.2/4.5 |
| 12ZPB4 | | | 4 | 65.6/6.0 |
| 16ZPB1 | 16/410 | 10.75/270 | 1 | 34.7/3.2 |
| 16ZPB2 | | | 2 | 69.4/6.4 |
| 16ZPB3 | | | 3 | 104.1/9.6 |
| 16ZPB4 | | | 4 | 138.8/12.8 |

Recommended flow rates are based on ½ 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 help prevent filter bypass even under the most arduous process conditions.



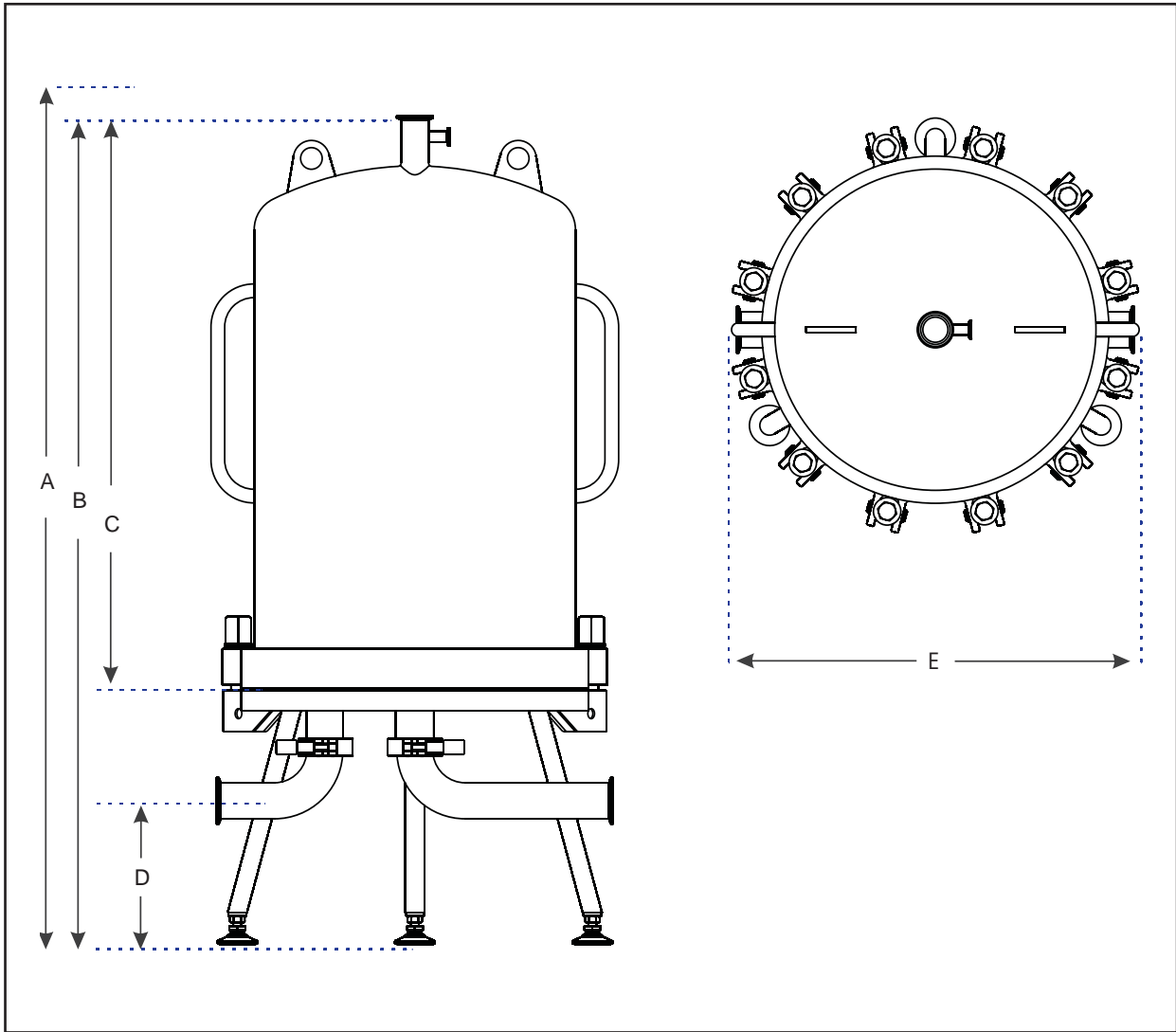
Filter Housing Flow Rates

Filter housing flow rates are dependent on the nature of the application. Variables such as filter media formulation and grade, temperature, viscosity, and the contamination level of the fluid all will dictate the ideal flow rate. Consult with 3M Purification Inc. representatives for ideal system rates for your application.

Zeta Plus Depth Filters

Zeta Plus depth filters are a family of filtration media composed of high surface area inorganic 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, haze components, 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, please contact 3M Purification Inc..





STANDARD MODEL WEIGHTS & DIMENSIONS

| Housing Model | Dome Weight | | Dimensions | | | | | | | | | |
|---------------|-------------|--------|--------------------|--------|-------------------|--------|----------------|--------|------------------|--------|--------|-----|
| | | | A | | B | | C | | D | | E | |
| | lbs | kg | Clearance Required | | Height of Housing | | Height of Dome | | Height of Flange | | Width | |
| | | inches | mm | inches | mm | inches | mm | inches | mm | inches | mm | |
| 8ZPB1 | 26 | 12 | 37 | 940 | 24 1/4 | 616 | 13 1/4 | 337 | 5 7/8 | 149 | 11 3/4 | 299 |
| 8ZPB2 | 34 | 15 | 50 | 1270 | 31 | 787 | 20 | 508 | | | | |
| 8ZPB3 | 41 | 19 | 63 | 1600 | 37 3/4 | 958 | 26 1/2 | 673 | | | | |
| 8ZPB4 | 48 | 22 | 76 | 1930 | 44 1/2 | 1130 | 33 1/4 | 845 | | | | |
| 12ZPB1 | 46 | 21 | 53 | 1346 | 33 3/4 | 857 | 20 | 508 | 7 7/8 | 200 | 15 3/4 | 400 |
| 12ZPB2 | 62 | 28 | 76 | 1930 | 45 1/4 | 1143 | 31 1/2 | 800 | | | | |
| *12ZPB3 | 77 | 35 | 98 | 2489 | 56 1/4 | 1422 | 42 1/2 | 1080 | | | | |
| *12ZPB4 | 90 | 41 | 117 | 2972 | 65 1/2 | 1665 | 52 | 1320 | 7 7/8 | 200 | 21 5/8 | 549 |
| *16ZPB1 | 86 | 39 | 55 | 1397 | 34 5/8 | 879 | 20 3/4 | 528 | | | | |
| *16ZPB2 | 108 | 49 | 78 | 1981 | 46 | 1168 | 32 | 812 | | | | |
| *16ZPB3 | 130 | 59 | 100 | 2540 | 57 | 1447 | 43 1/8 | 1095 | | | | |
| *16ZPB4 | 147 | 67 | 118 | 2997 | 66 3/8 | 1685 | 52 1/2 | 1333 | | | | |

Dimensions are for rough plumbing estimates only; for other details, please contact 3M Purification Inc.

*Models include lifting lugs on the dome.

| Model ZPB Housing Ordering Guide | |
|----------------------------------|----------------------|
| HOUSING MODEL | ORDER CATALOG NUMBER |
| 8ZPB1 | 4547501 |
| 8ZPB2 | 4547502 |
| 8ZPB3 | 4547503 |
| 8ZPB4 | 4547504 |
| 12ZPB1 | 4547301 |
| 12ZPB2 | 4547302 |
| 12ZPB3 | 4547303 |
| 12ZPB4 | 4547304 |
| 16ZPB1 | 4547601 |
| 16ZPB2 | 4547602 |
| 16ZPB3 | 4547603 |
| 16ZPB4 | 4547604 |

| Recommended Accessories | |
|---|-------------|
| Description | Part Number |
| Bleed/Drain Valve: ½" sanitary bleed valve | 6431131 |
| System Check Valves: 1 ½" sanitary check valve | 6431032 |
| 2" sanitary check valve | 6431031 |

Applications Support - SASS

3M Purification Inc.'s Scientific Applications Support Services (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 3M Purification Inc. filtration system.

Model ZPB Housing Integrated Systems

ZPB Model filter 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 3M Purification Inc. distributor.

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