

3M Housings IP Series

For lenticular cartridge filters

The IP sanitary housings are constructed from 316 L stainless steel and designed and built in accordance with AD Merkblätter 95. They have a design pressure rating of 8 bar g and can be used in temperatures up to 150 °C. This ensures they are compatible with most process applications. The interior and exterior surfaces are polished and crevice-free to meet industry requirements for surface finish.

Specifications

Operating conditions

The housing handles liquids at pressures up to 8 bar g and temperatures of up to 150 °C. The actual allowable operating conditions will depend on the PED 97/23/CE operating conditions for the application. Please refer to the section on the PED in this document.

Materials of construction

All wetted surfaces are 316L stainless steel. Other parts (V-band clamp, screw clamps, leg mountings, etc.) are supplied in 304 stainless steel or similar.

Gaskets

Silicone gaskets are supplied as standard. Other gasket materials are available as standard items and can be readily swapped with those supplied.

Inlet and outlet options

All IP housings have Triclover-flanged connections available (inlet/outlets and vents). In addition, the 12 IPB and 16 IPB housings have the option of inlet/outlets fitted with DIN 2633 flanges.

Surface finish

All IP housings have a high quality mechanical polish finish of 0.8 Microns Ra or less.

Food compliance

All IP housings comply with the requirements of Regulation (EC) 1935/2004 for their intended food contact applications. Contact 3M Purification for further information.



Features and benefits

316L stainless steel construction

- Provides excellent corrosion protection for rugged, long-lasting service.

Accepts varying height cartridges

- Allows use of 1,2,3 or 4 standard height cartridges for greater flexibility.


V-band clamp and swing bolt designs

- Optimizes cartridge change-out.

Removable cartridge centre-post and sealing nut compression assembly

- Easy cleaning reduces maintenance.
- Air vent allows venting before start-up and draining for safe filter operation.

Approved for food contact use

-  Complies with European regulations.

Applications

The IP housings are suitable for most food and beverage applications and other processes where 316 L material and high levels of surface finish are required.

Housing type specifications	8 IPC	12 IPB	16 IPB
Design code	AD Merkblätter 95		
Housing material	316L stainless steel (in contact)		
Surface finish	Mechanical polish < 0.8 micron Ra		
Housing closure system	V-band clamp	Screw clamps	
Housing diameter (nominal)	8 inch	12 inch	16 inch
Standard gasket material	Silicone		
Cartridge sizes (12" lenticular)	1, 2, 3 and 4 high		
Connection sizes and types	T1 : Triclover 1.5" Triclover ISO 2852 (ISO 2037 tube)	T2: Triclover 2.0" Triclover ISO 2852 (ISO 2037 tube) F2: DN40 flanged DIN 2633/EN 1092-1	
Vent connections	1 ½" Triclover		
Drain connections	N/A		
PED 97/23/CE	Article 3.3 only	Category I	
ATEX 94/9/CE	II 2 GD IIC		





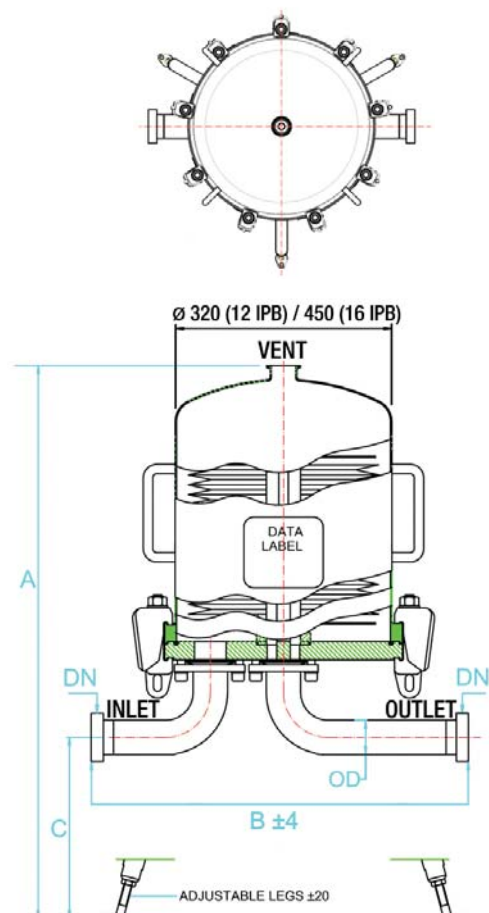
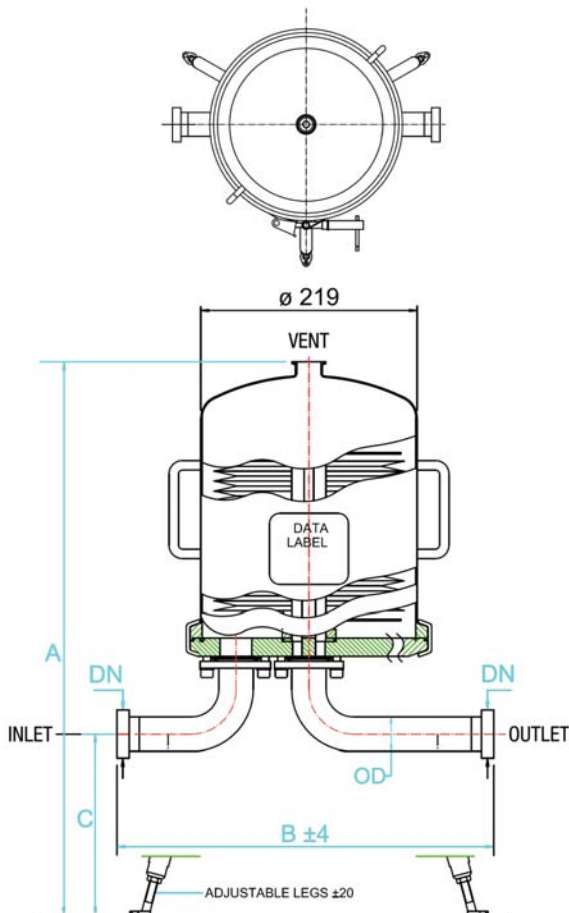
08 IPC housing

Table 2: Dimensions						
Housing model	08 IPC 1	08 IPC 2	08 IPC 3	08 IPC 4	12 IPB 1	12 IPB 2
Number of modules	1	2	3	4	1	2
A - Top to floor in mm	805	975	1148	1315	980	1250
B - Inlet to outlet in mm - T1/T2 (F2)	406	406	406	406	539 (597)	539 (597)
C - Inlet/outlet to floor in mm - T1/T2/F2	345	345	345	345	345	345
OD - T1 (08IP) / T2 in mm	38.1	38.1	38.1	38.1	50.8	50.8
OD - F2 in mm	48.3	48.3	48.3	48.3	48.3	48.3
Sump in mm	332	502	675	842	430	700
Sump weight in kg	5	7	9	11	12	16
Total nett weight in kg	21	25.5	30	34.5	45	50
Total weight packed in kg	24	30	36	42	50	56
Packaging size in cm	45x33x84	46x33x101	47x33x118	48x33x136	63x64x90	63x64x115
Total volume in litre	11	18	24	30	32	52

Housing model	12 IPB 3	12 IPB 4	16 IPB 1	16 IPB 2	16 IPB 3	16 IPB 4
Number of modules	3	4	1	2	3	4
A - Top to floor in mm	1530	1830	980	1250	1550	1850
B - Inlet to outlet in mm - T1/T2 (F2)	539 (597)	539 (597)	631 (689)	631 (689)	631 (689)	631 (689)
C - Inlet/outlet to floor in mm - T1/T2/F2	345	345	345	345	345	345
OD - T2 in mm	50.8	50.8	50.8	50.8	50.8	50.8
OD - F2 in mm	48.3	48.3	48.3	48.3	48.3	48.3
Sump in mm	970	1250	440	710	980	1260
Sump weight in kg	20	25	16	22	28	35
Total nett weight in kg	58	63	70	78	87	96
Total weight packed in kg	65	70	76	85	95	104
Packaging size in cm	63x64x140	63x64x165	63x64x100	63x64x125	63x64x150	63x64x175
Total volume in litre	74	96	63	105	147	191

Figure 1: Housing and housing lid 08 IPC

Figure 2: Housing and housing lid 12 IPB / 16 IPB



Cartridge requirements

All IP housings are suitable for lenticular depth filters such as Zeta Plus™ and ZetaCarbon™.

Pressure Equipment Directive 97/23/CE

08 IPC housings are certified to PED 97/23/CE Article 3.3 “Sound Engineering Practice” only. 12 IPB and 16 IPB housings can be used in PED 97/23/CE Category I conditions (dependant on vessel volume and pressure ratings).

The operator of these housings must ensure that they are used in conformity with the PED (and ATEX) regulations at all times.

The actual pressure and temperature that these housings can be used at will depend on the type and nature of the fluid being processed (Group 1: Hazardous, Group 2: Other), and whether it falls into the gas/vapour or liquid categories as defined by the PED.

IP housings are not approved for use with Group 1 (Hazardous) gas or vapour.

Please refer to the PED data in table 3 for details of the permissible operating conditions for these housings.

ATEX Directive 94/9/CE

IP housings are approved for use in ATEX condition II 2 GD IIC.

The user of these housings must ensure that they are used in accordance with the requirements of these PED and ATEX directives at all times. Please consult your local 3M Purification representative for any other classification or further information.



12 IPB / 16 IPB housing

Table 3: PED Specification Data							
PED 97/23/CE Data - 08 IPC Vessel Series							
PED 97/23/CE Article 3.3							
Fluid Group	State	Temperature °C		Maximum Pressure bar g			
		Min	Max	08 IPC 1	08 IPC 2	08 IPC 3	08 IPC 4
Group 1 (Hazardous)	Liquid	0	40	8.0	8.0	8.0	8.0
Group 1 (Hazardous)	Liquid	0	150	4.0	4.0	4.0	4.0
Group 2 (Other)	Liquid	0	40	8.0	8.0	8.0	8.0
Group 2 (Other)	Liquid	0	150	4.0	4.0	4.0	4.0
Vessel Volumes (Litres)				11	18	24	30
PED 97/23/CE Data - 12 IPB Vessel Series							
PED 97/23/CE Category I							
Fluid Group	State	Temperature °C		Maximum Pressure bar g			
		Min	Max	12 IPB 1	12 IPB 2	12 IPB 3	12 IPB 4
Group 1 (Hazardous)	Liquid	0	40	8.0	8.0	8.0	8.0
Group 1 (Hazardous)	Liquid	0	150	6.2	6.2	6.2	6.2
Group 2 (Other)	Liquid	0	40	8.0	8.0	8.0	8.0
Group 2 (Other)	Liquid	0	150	6.2	6.2	6.2	6.2
Group 2 (Other)	Gas / Vapour	0	150	5.9	3.6	2.6	2.0
Vessel Volumes (Litres)				32	53	74	96
PED 97/23/CE Data - 16 IPB Vessel Series							
PED 97/23/CE Category I							
Fluid Group	State	Temperature °C		Maximum Pressure bar g			
		Min	Max	16 IPB 1	16 IPB 2	16 IPB 3	16 IPB 4
Group 1 (Hazardous)	Liquid	0	40	8.0	8.0	8.0	8.0
Group 1 (Hazardous)	Liquid	0	150	6.2	6.2	6.2	6.2
Group 2 (Other)	Liquid	0	40	8.0	8.0	8.0	8.0
Group 2 (Other)	Liquid	0	150	6.2	6.2	6.2	6.2
Group 2 (Other)	Gas / Vapour	0	150	3.1	1.8	1.3	1.0
Vessel Volumes (Litres)				63	105	147	191
<small>Note: The PED97/23/CE defines a Gas/Vapour application as being where gas or vapour is present in the process fluid (at the temperature it is being processed at) at 0.5 bar above atmospheric pressure and NOT at the actual processing pressure. If in any doubt please ask your local 3M purification representative for confirmation of your process classification.</small>							

QA documentation standards

IP housings are delivered with an EN10204 2.2 Certificate of Conformity.

Other QA certificates available (upon request) are:

- EN10204 3.1 Pressure Test Certificate.
- EN10204 3.1 Materials of Construction (in contact) Certificate.

Spares and accessories

A comprehensive range of spares and accessories is available. For all enquires please contact your local 3M Purification representative.

Ordering guide 08 IPC range

Modular diameter	Product type	Closure type	Modular quantity	Inlet/Outlet	PED	Surface finish
08 = 8"	IP	C = Clamped	1 2 3 4	T1 = Triclover DN 1.5"	0 = Article 3.3	F3 = (Mechanical polish <0.8 µm Ra)

Ordering guide 12 IPB / 16 IPB range

Modular diameter	Product type	Closure type	Modular quantity	Inlet/Outlet	PED	Surface finish
12 = 12" 16 = 16"	IP	B = Bolted	1 2 3 4	T2 = Triclover DN 2.0" F2 = DIN 2633/EN 1092-1 DN40	1 = Category I	F3 = (Mechanical polish <0.8 µm Ra)

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