

# 3M Housings IW Series

For Cartridge Filters

The IW housings are constructed from 316 L stainless steel and designed and built in accordance with AD Merkblätter 95. They have a pressure rating design of between 8 and 10 bar g depending on the model and can be used in temperatures up to 150 °C. This ensures they are compatible with most process applications. Interior and exterior surfaces are polished and crevice-free to meet industry requirements for surface finish.

The IW housings are fully CE marked in accordance with the European Pressure Equipment Directive (PED) and suitable for plug in cartridges such as LifeASSURE™ PDA, LifeASSURE™ 020SA, 020SP, 045SP, 020ST and Betapure™ NT filters.

## Pressure Equipment Directive 97/23/CE

IW housings are available in either PED 97/23/CE Category I or Category II versions (Dependant on vessel volume and pressure ratings). The operator of these vessels must ensure that they are used in conformity with the PED (and ATEX) regulations at all times.

The actual pressure and temperature that these vessels 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. Do not use IW housings with Group 1 (hazardous) gas or vapour. Please refer to the PED Data Table 3 for details of the permissible operating conditions for these vessels.

## ATEX Directive 94/9/CE

IW housings are approved for use in ATEX condition II-2-G/D-T5.

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.



## Features & Benefits

### 316L stainless steel construction

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

### Optimum quality standards at competitive costs

- Ensure the most appropriate housing is available at the right price.

### State of the art design, engineering and manufacturing

- Provides flexibility in surface finish specifications, housing sizes and connection options.

## Applications

Pharmaceutical

Cosmetics

Food and Beverage

Micro-Electronics

Fine Chemicals

Housing Type Specifications	01 IWV / 03 IWV / 05 IWV / 08 IWV	12 IWV	18 IWV / 24 IWV
Design Code	AD Merkblätter 95	AD Merkblätter 95	AD Merkblätter 95
Housing Material (in contact)	316L (1.4404) Stainless Steel	316L (1.4404) Stainless Steel	316L (1.4404) Stainless Steel
Surface Finish	Mechanical Polish < 0.8 micron Ra	Mechanical Polish < 0.8 micron Ra	Mechanical Polish < 0.8 micron Ra
Closure	Clamped	Bolted	Bolted
Number of Cartridges	1 - 3 - 5 - 8	12	18 -24
Standard Gasket Material	Silicone (others on request)	Silicone (others on request)	Silicone (others on request)
Cartridge Height	1, 2, 3 and 4 high	1, 2, 3 and 4 high	3 and 4 high
Connection Sizes	<ul style="list-style-type: none"> <li>• Threaded Male DIN 11851</li> <li>• Triclover</li> <li>• DIN 2633 Flanges</li> <li>• MACON</li> </ul>	<ul style="list-style-type: none"> <li>• Threaded Male DIN 11851</li> <li>• Triclover</li> <li>• DIN 2633 Flanges</li> <li>• MACON</li> </ul>	<ul style="list-style-type: none"> <li>• Threaded Male DIN 11851</li> <li>• Triclover</li> <li>• DIN 2633 Flanges</li> <li>• MACON</li> </ul>
Vent Connections	½" TC	½" TC	½" TC
Max. Operating Pressure	10 bar g	9 bar g	8 bar g
Max. Operating Temperature	150 °C	150 °C	150 °C
PED 97/23/CE	Category I	Category I	Category I (18 IWV) Category II (24 IWV)
ATEX 94/9/CE	II-2-G/D-T5	II-2-G/D-T5	II-2-G/D-T5

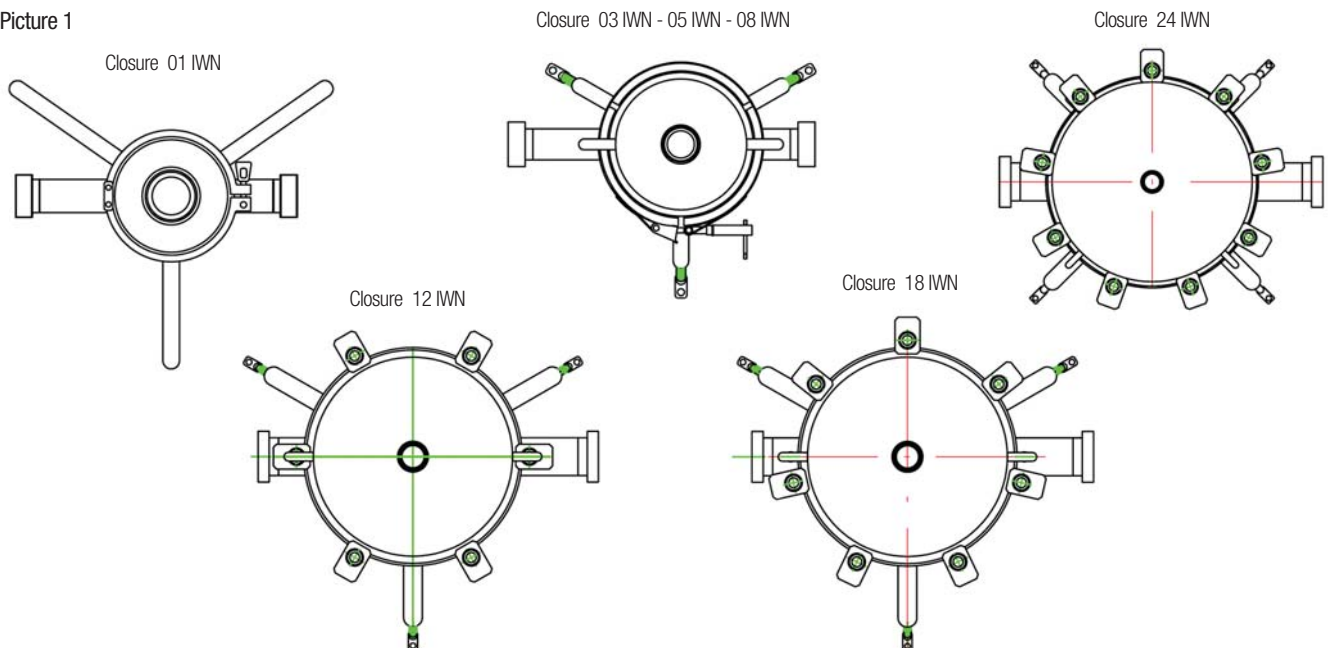
Table 1 is intended as a guide. Grade selection and performance should be confirmed with small-scale pilot trial.



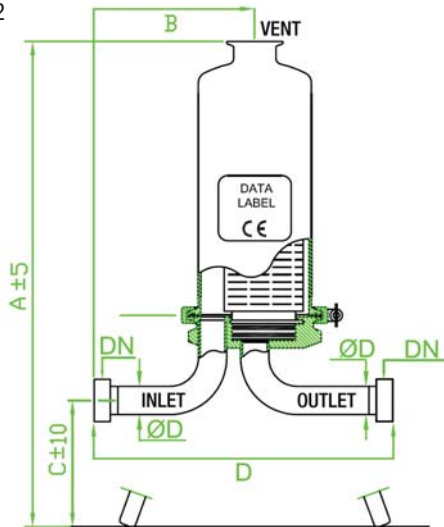
**Table 2: Dimensions**

Housing Model	A (mm)	B (mm)				C (mm)				D (mm)				OD (mm)				Sump Weight (kg)	Total Nett Weight (kg)	Total Weight Packed (kg)	Packaging Size (cm)	Total Volume (litre)
	Top to floor	Vent to Inlet/Outlet				Inlet/outlet to floor				Inlet to outlet												
		T1	D1	F1	M1	T1	D1	F1	M1	T1	D1	F1	M1	T1	D1	F1	M1				30x27x	
01 IWN C1	790	104	120	129	112	381	381	381	381	189	221	239	207	25.4	25.4	25.4	25.4	2	7	8	112	3
01 IWN C2	1040	104	120	129	112	381	381	381	381	189	221	239	207	25.4	25.4	25.4	25.4	3.3	8.2	9.5	112	4.8
01 IWN C3	1290	104	120	129	112	381	381	381	381	189	221	239	207	25.4	25.4	25.4	25.4	4.6	9.4	11	112	6.7
01 IWN C4	1540	104	120	129	112	381	381	381	381	189	221	239	207	25.4	25.4	25.4	25.4	5.9	10.6	13	127	8.6
		T1	D1	F1	M1	T1	D1	F1	M1	T1	D1	F1	M1	T1	D1	F1	M1				40x40x	
03 IWN C1	816	148	168	173	157	340	340	340	340	310	351	365	329	38.1	38.1	38.1	38.1	4	17.4	23	75	7.3
03 IWN C2	1065	148	168	173	157	340	340	340	340	310	351	365	329	38.1	38.1	38.1	38.1	6	19.4	25	100	12.6
03 IWN C3	1314	148	168	173	157	340	340	340	340	310	351	365	329	38.1	38.1	38.1	38.1	8	21.4	27	116	17.8
03 IWN C4	1564	148	168	173	157	340	340	340	340	310	351	365	329	38.1	38.1	38.1	38.1	10	23.4	29	138	23.1
		T2	D2	F2	M2	T2	D2	F2	M2	T2	D2	F2	M2	T2	D2	F2	M2				45x33x	
05 IWN C1	828	196	218	225	205	315	315	315	315	379	423	437	397	50.8	50.8	50.8	50.8	5.3	18	24	75	11
05 IWN C2	1078	196	218	225	205	315	315	315	315	379	423	437	397	50.8	50.8	50.8	50.8	7.5	20	26	100	20
05 IWN C3	1328	196	218	225	205	315	315	315	315	379	423	437	397	50.8	50.8	50.8	50.8	10.2	22	28	118	29.1
05 IWN C4	1578	196	218	225	205	315	315	315	315	379	423	437	397	50.8	50.8	50.8	50.8	12.9	24	30	143	38.2
		T2	D2	F2	M2	T2	D2	F2	M2	T2	D2	F2	M2	T2	D2	F2	M2				50x40x	
08 IWN C1	846	222	244	251	231	315	315	315	315	405	449	463	423	50.8	50.8	50.8	50.8	7	27	30	75	21.3
08 IWN C2	1096	222	244	251	231	315	315	315	315	405	449	463	423	50.8	50.8	50.8	50.8	10	30	34	100	35.5
08 IWN C3	1346	222	244	251	231	315	315	315	315	405	449	463	423	50.8	50.8	50.8	50.8	13	33	38	118	49.7
08 IWN C4	1596	222	244	251	231	315	315	315	315	405	449	463	423	50.8	50.8	50.8	50.8	16	36	42	143	63.9
		T2	D2	F2	M2	T2	D2	F2	M2	T2	D2	F2	M2	T2	D2	F2	M2				54x53x	
12 IWN B1	930	225	252	257	247	326	326	279	326	493	547	557	495	63.5	63.5	76.2	50.8	10	58	63	75	41
12 IWN B2	1180	225	252	257	247	326	326	279	326	493	547	557	495	63.5	63.5	76.2	50.8	14.5	62	67	100	66
12 IWN B3	1430	225	252	257	247	326	326	279	326	493	547	557	495	63.5	63.5	76.2	50.8	19	66	71	125	89
12 IWN B4	1680	225	252	257	247	326	326	279	326	493	547	557	495	63.5	63.5	76.2	50.8	23.5	70	76	125	113
		T2	D2	F2	M2	T2	D2	F2	M2	T2	D2	F2	M2	T2	D2	F2	M2				59x58x	
18 IWN B3	1450	253	276	295	274	297	310	273	325	566	582	630	567	76.2	85.0	76.2	63.5	22	68	74	128	115
18 IWN B4	1700	253	276	295	274	297	310	273	325	566	582	630	567	76.2	85.0	76.2	63.5	27	74	80	153	146
		T2	D2	F2	M2	T2	D2	F2	M2	T2	D2	F2	M2	T2	D2	F2	M2				64x63x	
24 IWN B3	1470	253	296	315	274	272	310	318	310	580	616	633	574	76.2	85.0	88.9	85.0	25	95	103	130	151
24 IWN B4	1720	253	296	315	274	272	310	318	310	580	616	633	574	76.2	85.0	88.9	85.0	30	100	108	155	190

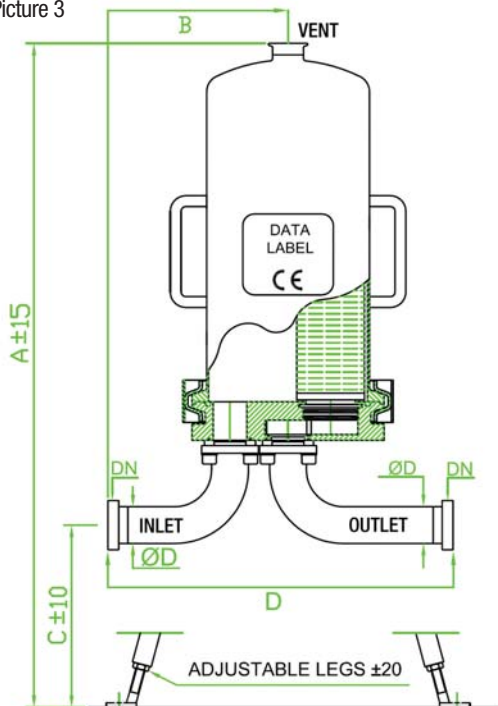
Picture 1



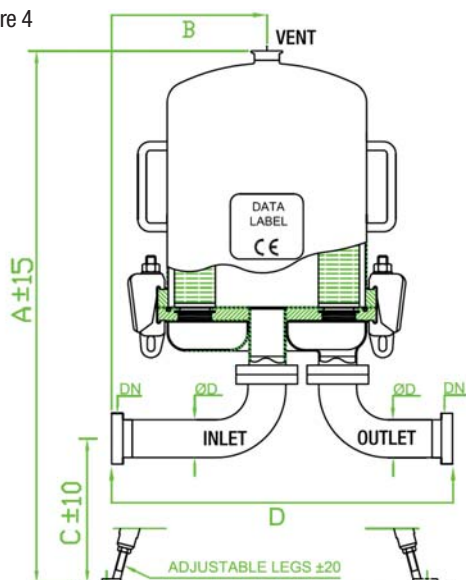
Picture 2



Picture 3



Picture 4



Picture 1 shows the top view of the different housing closures with clamps and bolts available in the IW housing series. Picture 2 shows the drawing of the 01 IWN housing model. Picture 3 displays the drawing for the 03 IWN housing, the 05 IWN housing, the 08 IWN housing and the 12 IWN housing. Picture 4 is the drawing for the 18 IWN and 24 IWN housing model.

You will find the important measurements in Table 2 on the previous page. If you need more technical information, please consult your local 3M Purification representative.

Table 3: PED Data

PED 97/23/CE Data - IW Vessel Series							
01 IWN - 97/23/CE Category I							
Fluid Group	State	Temperature °C		Maximum Pressure bar g			
		Min	Max	01WN1	01WN2	01WN3	01WN4
Group 1 (Hazardous)	Liquid	0	40	10,0	10,0	10,0	10,0
Group 1 (Hazardous)	Liquid	0	150	7,5	7,5	7,5	7,5
Group 2 (Other)	Liquid	0	40	10,0	10,0	10,0	10,0
Group 2 (Other)	Liquid	0	150	7,5	7,5	7,5	7,5
Group 2 (Other)	Gas / Vapour	0	40	10,0	10,0	10,0	10,0
Group 2 (Other)	Gas / Vapour	0	150	7,5	7,5	7,5	7,5
Vessel Volumes (Litres)				3,0	4,8	6,7	8,6
03 IWN - 97/23/CE Category I							
Fluid Group	State	Temperature °C		Maximum Pressure bar g			
		Min	Max	03IWN1	03IWN2	03IWN3	03IWN4
Group 1 (Hazardous)	Liquid	0	40	10,0	8,0	8,0	8,0
Group 1 (Hazardous)	Liquid	0	150	7,5	7,5	7,5	7,5
Group 2 (Other)	Liquid	0	40	10,0	8,0	8,0	8,0
Group 2 (Other)	Liquid	0	150	7,5	7,5	7,5	7,5
Group 2 (Other)	Gas / Vapour	0	40	10,0	8,0	8,0	8,0
Group 2 (Other)	Gas / Vapour	0	150	7,5	7,5	7,5	7,5
Vessel Volumes (Litres)				7,3	12,6	17,8	23,1
08 IWN - 97/23/CE Category I							
Fluid Group	State	Temperature °C		Maximum Pressure bar g			
		Min	Max	08IWN1	08IWN2	08IWN3	08IWN4
Group 1 (Hazardous)	Liquid	0	40	10,0	8,0	8,0	8,0
Group 1 (Hazardous)	Liquid	0	150	7,5	7,5	7,5	7,5
Group 2 (Other)	Liquid	0	40	10,0	8,0	8,0	8,0
Group 2 (Other)	Liquid	0	150	7,5	7,5	7,5	7,5
Group 2 (Other)	Gas / Vapour	0	40	9,4	5,6	4,0	3,1
Group 2 (Other)	Gas / Vapour	0	150	7,5	5,6	4,0	3,1
Vessel Volumes (Litres)				21,3	35,5	49,7	63,9
12 IWN - 97/23/CE Category I							
Fluid Group	State	Temperature °C		Maximum Pressure bar g			
		Min	Max	12IWN1	12IWN2	12IWN3	12IWN4
Group 1 (Hazardous)	Liquid	0	40	9,0	9,0	9,0	9,0
Group 1 (Hazardous)	Liquid	0	150	7,0	7,0	7,0	7,0
Group 2 (Other)	Liquid	0	40	9,0	9,0	9,0	9,0
Group 2 (Other)	Liquid	0	150	7,0	7,0	7,0	7,0
Group 2 (Other)	Gas / Vapour	0	150	4,8	3,0	2,2	1,7
Vessel Volumes (Litres)				41,0	66,0	89,0	113,0
18 IWN - 97/23/CE Category I							
Fluid Group	State	Temperature °C		Maximum Pressure bar g			
		Min	Max	-	-	18IWN3	18IWN4
Group 1 (Hazardous)	Liquid	0	40	-	-	8,0	8,0
Group 1 (Hazardous)	Liquid	0	150	-	-	6,2	6,2
Group 2 (Other)	Liquid	0	40	-	-	8,0	8,0
Group 2 (Other)	Liquid	0	150	-	-	6,2	6,2
Group 2 (Other)	Gas / Vapour	0	150	-	-	1,7	1,3
Vessel Volumes (Litres)				-	-	115,0	146,0
24 IWN - 97/23/CE Category II							
Fluid Group	State	Temperature °C		Maximum Pressure bar g			
		Min	Max	-	-	24IWN3	24IWN4
Group 1 (Hazardous)	Liquid	0	40	-	-	8,0	8,0
Group 1 (Hazardous)	Liquid	0	150	-	-	6,2	6,2
Group 2 (Other)	Liquid	0	40	-	-	8,0	8,0
Group 2 (Other)	Liquid	0	150	-	-	6,2	6,2
Group 2 (Other)	Gas / Vapour	0	40	-	-	8,0	8,0
Group 2 (Other)	Gas / Vapour	0	150	-	-	6,2	6,2
Vessel Volumes (Litres)				-	-	151,0	190,0

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.

## Ordering Guide IW Range

Cartridge Quantity	Housing Type	Drains	Closure Type	Cartridge Height	Inlet/Outlet Connection	PED 97/23/EC Category	Surface Finish (wet parts)
01	IW	N (No drains)	C (Clamp)	1 (10") 2 (20") 3 (30") 4 (40")	T1 (Triclover DN 1.0") D1 (DIN 11851 Male DN 25) F1 (DIN 2633 Flange DN 32) M1 MACON 25 mm	1 (Category I)	F3 (Mechanical Polished <0.8 µm Ra)
03	IW	N (No drains)	C (Clamp)	1 (10") 2 (20") 3 (30") 4 (40")	T1 (Triclover DN 1.0") D1 (DIN 11851 Male DN 25) F1 (DIN 2633 Flange DN 32) M1 MACON 25 mm	1 (Category I)	F3 (Mechanical Polished <0.8 µm Ra)
05	IW	N (No drains)	C (Clamp)	1 (10") 2 (20") 3 (30") 4 (40")	T2 (Triclover DN 2.0") D2 (DIN 11851 Male DN 50) F2 (DIN 2633 Flange 40 mm) M2 MACON 50 mm	1 (Category I)	F3 (Mechanical Polished <0.8 µm Ra)
08	IW	N (No drains)	C (Clamp)	1 (10") 2 (20") 3 (30") 4 (40")	T2 (Triclover DN 2.0") D2 (DIN 11851 Male DN 50) F2 (DIN 2633 Flange 40 mm) M2 MACON 50 mm	1 (Category I)	F3 (Mechanical Polished <0.8 µm Ra)
12	IW	N (No drains)	B (Bolted)	1 (10") 2 (20") 3 (30") 4 (40")	T2 (Triclover DN 2.5") D2 (DIN 11851 Male DN 65) F2 (DIN 2633 Flange DN 65) M2 MACON 50 mm	1 (Category I)	F3 (Mechanical Polished <0.8 µm Ra)
18	IW	N (No drains)	B (Bolted)	3 (30") 4 (40")	T2 (Triclover DN 3.0") D2 (DIN 11851 Male DN 80) F2 (DIN 2633 Flange DN 65) M2 MACON 50 mm	1 (Category I)	F3 (Mechanical Polished <0.8 µm Ra)
24	IW	N (No drains)	B (Bolted)	3 (30") 4 (40")	T2 (Triclover DN 3.0") D2 (DIN 11851 Male DN 80) F2 (DIN 2633 Flange DN 80) M2 MACON 80 mm	2 (Category II)	F3 (Mechanical Polished <0.8 µm Ra)

### Important Notice

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### 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 the 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.

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