

# Steam Filters Utilities

Filter Cartridges

# M•F•ILTER



Steam filtration is often neglected or regarded as an add on to liquid or gas filtration applications.

It is however, a specific application and should be treated with the same level of importance as air, gas and liquid systems if longer filter lifetimes and overall system cost-effectiveness are to be achieved.

The quality of steam used within food and dairy industries has been raised higher on the agenda in an ever increasing number of companies. Minimum acceptable standards are now being quoted on a more regular basis with particular reference to 'culinary grade' steam. Steam serves several purposes in the food and beverage industry. It is critical that this steam is of a high quality to ensure effective and continuous operation of the process.

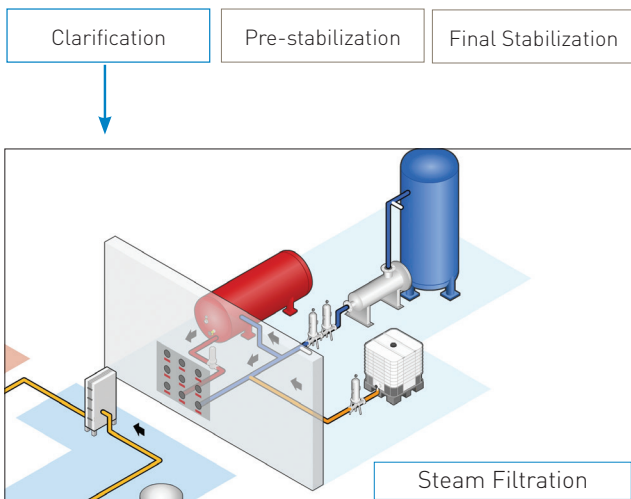
## Features

- Robust all welded 316L stainless steel construction
- 'JUMBO' filter configuration ensures maximum utilization of pipework capacity
- Available in culinary grade 1 micron absolute

## Benefits

- Long service life under extreme conditions
- Reduced operational cost
- Assures performance to 3A standard

## Filtration Stage



## Which filter for which applicaiton?

Process Steam		Culinary Steam (3A Standard 609-03)	
<ul style="list-style-type: none"><li>■ Direct from boiler</li><li>■ No direct contact with product being manufactured</li></ul>		<ul style="list-style-type: none"><li>■ 95% retention of &gt;2 micron particles in the liquid phase</li><li>■ Manufactured from 300 series stainless steel</li><li>■ Any additives to the boiler feed should conform to CFR Title 21, Chapter1, Part 173.310</li></ul>	
↓		↓	
Applications		Applications	
<ul style="list-style-type: none"><li>■ General heating</li><li>■ Steam jackets</li><li>■ Bio waste kill systems</li></ul>		<ul style="list-style-type: none"><li>■ Used in direct contact with food</li><li>■ Direct contact with food processing equipment and HVAC systems</li></ul>	
↓		↓	
Sintered 25µm Used for relatively low flow rates	Pleated 5µm High flow rates and dirt holding capacity	Sintered 1µm used for relatively low flow rates	Pleated 1µm Used to maximize steam capacity of pipe

## Specifications - Pleated

### Materials of Construction

Filtration Media:	316L Stainless Steel
Inner Support Core:	316L Stainless Steel
Outer Protection Cage:	316L Stainless Steel
End Caps:	316L Stainless Steel
Standard o-rings/gaskets:	EPDM (Standard) Silicone and Viton <i>(options available)</i>

### Recommended Operating Conditions

The maximum differential pressure in direction of flow (outside to in) is 10 barg (145.03 psig).

The maximum differential pressure in direction of flow (in to outside) is 2 barg (29.00 psig).

The maximum recommended continuous operating temperature range is -75 °C (-103 °F) to +200 °C (392 °F).

*Note: Temperature dependant on o-ring compound*

### Effective Filtration Area (EFA)

10" (250 mm) 0.15 m<sup>2</sup> (1.61 ft<sup>2</sup>)

### Housing Materials of Construction

Material:	316L Stainless Steel
Surface Finish	
Single Internal:	Electropolished Ra 0.8
Single External:	Mechanical Polish (Commercial Bright)
Jumbo Internal:	Upstream - Beadblast Outlet Assembly - Finished 180 grit
Jumbo External:	Beadblast
Vent / Drain	
Single / Jumbo:	1/4" BSPP Female Thread
Seal Material:	EPDM Aseptic Seal

### Housing Design Pressure and Temperature

Single:	16 barg (232 psig) @ 200 °C (392 °F)
Jumbo:	7 barg (101 psig) @ 170 °C (338 °F)

Figure	Housing Code	Connection Size	Capacity Kg / hr @ 1 barg	Overall Height	Replacement Filter Code
1	HBAHP01KY HBAHP011C	1.5" (38.1 mm) 2" (50.8 mm)	<100 mbar or 40 m / sec 150 280	14.8" (376 mm) 20.7" (526 mm)	ZCHS-K-...C ZCHS-1-...C
2	VISCE-01J-D	3" (50.8 mm)	750	30.0" (763 mm)	ZCHS-J-...3
2	VISCE-01J-E	4" (101.6 mm)	1300	35.2" (895 mm)	ZCHS-J-...4
2	VISCE-03J-G	6" (152.4 mm)	2300	41.2" (1049 mm)	3 x ZCHS-J-...3
2	VISCE-03J-H	8" (203.2 mm)	3750	48.7" (1237 mm)	3 x ZCHS-J-...4

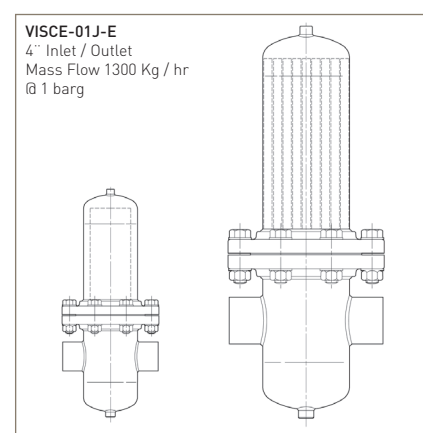
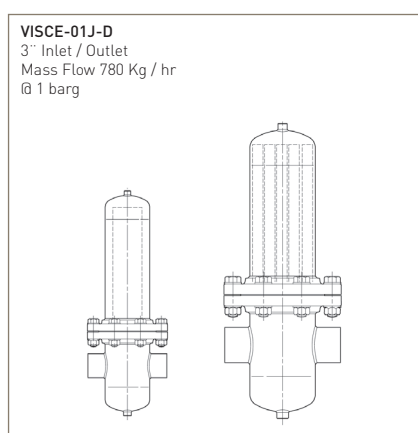
Note: For efficient steam distribution it is recommended that steam velocities are restricted to 25 m / sec<sup>-1</sup>. For more information on the HBA range, please contact Parker donnick hunter.

### Correction Factors

To use the table above, the steam flow rates must be at 1 barg (14.50 psig). For system flows at different line pressures, divide the system flow by the correction factor to find the equivalent flow @ 1 barg (14.50 psig).

Steam Pressure	0	1	2	3	4	5	6	7	8	9	10
Correction Factor	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5

Table showing the relative system size difference between pleated cartridges left and sintered cartridges right.



# Steam Filters Utilities

## Filter Cartridges

### Specifications - Sintered

#### Materials of Construction

Filtration Media:	Sintered Stainless Steel (316L)
End Caps:	316L Stainless Steel
Standard o-rings/gaskets:	EPDM (Standard) Silicone and Viton® <i>(options available)</i>

#### Recommended Operating Conditions

The maximum differential pressure in direction of flow (outside to in) is 10 barg (145.03 psig).

The maximum differential pressure in direction of flow (in to outside) is 5 barg (72.51 psig).

The maximum recommended continuous operating temperature range is -75 °C (-103 °F) to +200 °C (392 °F).

*Note: Temperature dependant on o-ring compound*

#### Housing Materials of Construction

Material:	316L Stainless Steel
Surface Finish:	Internal: Electropolished Ra 0.8 External: Mechanical Polish (Commercial Bright)
Vent / Drain:	1/4" BSPP Female Thread (Supplied with Plug)
Seal Material:	EPDM Aseptic Seal

#### Housing Design Pressure and Temperature

16 barg (232 psig) @ 200°C (392°F)

Figure	Housing Code	Connection Size	Capacity Kg / hr @ 1 barg	Overall Height	Replacement Filter Code
1	HBAHP01KY HBAHP011C HBAHP012C	1.5" (38.1 mm) 2" (50.8 mm) 2" (50.8 mm)	<100 mbar or 40 m / sec 1 µm 21 40 82 45 160 280	14.8" (376 mm) 20.7" (526 mm) 30.5" (776 mm)	ZCSSK-...C ZCSS1-...C ZCSS2-...C

Note: For efficient steam distribution it is recommended that steam velocities are restricted to 25 m / sec<sup>-1</sup>. For more information on the HBA range, please contact Parker domnick hunter.

#### Correction Factors

To use the table above, the steam flow rates must be at 1 barg (14.50 psig). For system flows at different line pressures, divide the system flow by the correction factor to find the equivalent flow @ 1 barg (14.50 psig).

Steam Pressure	0	1	2	3	4	5	6	7	8	9	10
Correction Factor	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5

### Ordering information

ZCSS	-			ZCHS	-		
Code   Length	Code   Nominal Micron Rating Steam	Code   End Cap (10")	Code   Length	Code   Nominal Micron Rating Steam	Code   End Cap (10")	Code   End Cap (Demi)	Code   End Cap (Demi)
B 2.5" (65 mm) A 5" (125 mm) K 5" (125 mm) 1 10" (250 mm) 2 20" (500 mm) 3 30" (750 mm) 4 40" (1000 mm)	001 1.0 µm (Culinary) 025 25.0 µm	B dh DOE C 226 Bayonet	B 2.5" (65 mm) A 5" (125 mm) K 5" (125 mm) 1 10" (250 mm) 2 20" (500 mm) 3 30" (750 mm) J JUMBO	001 1.0 µm (Culinary) 005 5.0 µm	B dh DOE C 226 Bayonet 3 3" JUMBO 4 4" JUMBO	T TRUSEAL Z Demi A & B Std	T TRUSEAL Z Demi A & B Std
All cartridges supplied as single items			All cartridges supplied as single items				

#### SINTERED Stainless Steel Retrofit Cartridge Part Numbers - 1.0 µm & 25 µm

Parker domnick hunter Cartridge	DS-R 3/1	DS-R 3/1.4	DS-R 4/1.5	DS-R 4/2.5	DS-R 5/2.5	DS-R 5/3	DS-R 10/3	DS-R 15/3	DS-R 20/3	DS-R 30/3	DS-R 30/5				
Retrofit Cartridge	GS3/1 SS3/1	GS3/1.5 SS3/1.5	GS4/1.5 SS4/1.5	GS4/2.5 SS4/2.5	GS5/2.5 SS5/2.5	GS5/3 SS5/3	GS10/3 SS10/3	GS15/3 SS15/3	GS20/3 SS20/3	GS30/3 SS30/3	GS30/5 SS30/5				
Parker domnick hunter Cartridge	DS-R 02/05	DS-R 02/10	DS-R 03/05	DS-R 03/10	DS-R 04/10	DS-R 04/20	DS-R 05/20	DS-R 05/25	DS-R 07/25	DS-R 07/30	DS-R 10/30	DS-R 15/30	DS-R 20/30	DS-R 30/30	DS-R 30/50
Retrofit Cartridge	GS02/05 SS02/05	GS02/10 SS02/10	GS03/05 SS03/05	GS03/10 SS03/10	GS04/10 SS04/10	GS04/20 SS04/20	GS05/20 SS05/20	GS05/25 SS05/25	GS07/25 SS07/25	GS07/30 SS07/30	GS10/30 SS10/30	GS15/30 SS15/30	GS20/30 SS20/30	GS30/30 SS30/30	GS30/50 SS30/50
Parker domnick hunter Cartridge	PDS-R 02/05	PDS-R 02/10	PDS-R 03/05	PDS-R 03/10	PDS-R 04/10	PDS-R 04/20	PDS-R 05/20	PDS-R 05/25	PDS-R 07/25	PDS-R 07/30	PDS-R 10/30	PDS-R 15/30	PDS-R 20/30	PDS-R 30/30	PDS-R 30/50
Retrofit Cartridge	P-GS02/05 P-SS02/05	P-GS02/10 P-SS02/10	P-GS03/05 P-SS03/05	P-GS03/10 P-SS03/10	P-GS04/10 P-SS04/10	P-GS04/20 P-SS04/20	P-GS05/20 P-SS05/20	P-GS05/25 P-SS05/25	P-GS07/25 P-SS07/25	P-GS07/30 P-SS07/30	P-GS10/30 P-SS10/30	P-GS15/30 P-SS15/30	P-GS20/30 P-SS20/30	P-GS30/30 P-SS30/30	P-GS30/50 P-SS30/50

## Specifications - Sintered retrofit cartridges

### Materials of Construction

- Filtration Media: Sintered Stainless Steel (316L)
- End Caps: 316L Stainless Steel
- Standard o-rings/gaskets: EPDM (Standard)  
Silicone and Viton®  
*(options available)*

### Recommended Operating Conditions

The maximum differential pressure in direction of flow (outside to in) is 10 barg (145.03 psig).

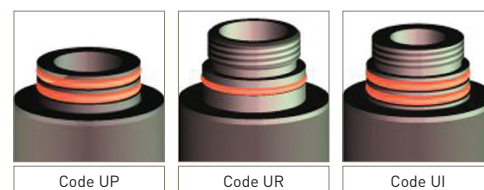
The maximum differential pressure in direction of flow (in to outside) is 5 barg (72.51 psig).

The maximum recommended continuous operating temperature range is -75 °C (-103 °F) to +200 °C (392 °F).  
*Note: Temperature dependant on o-ring compound*

## Ordering Information

### SINTERED retrofit cartridges

Code	Micron	Code	Length (Nominal)	Code	Diameter (Nominal)	Code	End Cap (10")
P	1 micron	02	2" (65 mm)	05	1"	UP	2 x o-ring
S	25 micron	03	3" (125 mm)	10	1"	UR	1 x o-ring & thread
<i>All cartridges supplied as single items</i>		04	4" (125 mm)	20	2"	UI	2 x o-ring & thread
		05	5" (250 mm)	25	2.5"		
		07	7" (500 mm)	30	3"		
		10	10" (750 mm)	50	5"		
		15	15" (750 mm)				
		20	20" (750 mm)				
		30	30" (750 mm)				



Description	L	D	Diagram	Description	L	D	Diagram	Description	L	D	Diagram
ZP/ZS 0310 UR	88	40		ZP/ZS 0210 UP	-	-		ZP/ZS 0205 UI	75	35	
ZP/ZS 0315 UR	88	40		ZP/ZS 0310 UP	86	35		ZP/ZS 0210 UI	93	35	
ZP/ZS 0415 UR	124	40		ZP/ZS 0305 UP	-	-		ZP/ZS 0305 UI	89	35	
ZP/ZS 0425 UR	125	54		ZP/ZS 0410 UP	114	35		ZP/ZS 0310 UI	93	35	
ZP/ZS 0525 UR	152	54		ZP/ZS 0420 UP	117	40		ZP/ZS 0410 UI	121	35	
ZP/ZS 0530 UR	148	76		ZP/ZS 0520 UP	141	40		ZP/ZS 0420 UI	127	40	
ZP/ZS 1030 UR	269	76		ZP/ZS 0525 UP	141	54		ZP/ZS 0520 UI	151	40	
ZP/ZS 1530 UR	405	76		ZP/ZS 0725 UP	193	54		ZP/ZS 0525 UI	151	54	
ZP/ZS 2030 UR	532	76		ZP/ZS 0730 UP	196	76		ZP/ZS 0725 UI	203	54	
ZP/ZS 3030 UR	784	76		ZP/ZS 1030 UP	269	76		ZP/ZS 0730 UI	206	76	
ZP/ZS 3050 UR	774	130		ZP/ZS 1530 UP	396	76		ZP/ZS 1030 UI	279	76	
				ZP/ZS 2030 UP	523	76		ZP/ZS 1530 UI	406	76	
				ZP/ZS 3030 UP	775	76		ZP/ZS 2030 UI	533	76	
				ZP/ZS 3050 UP	775	76		ZP/ZS 3030 UI	785	76	
								ZP/ZS 3050 UI	785	130	

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