HENGKO®

OEM Manufacturer of Industrial Gas Filters

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HENGKO®

HIGH-PURITY / ULTRA-PURE GASES

MICROELECTRONICS GAS FILTRATION APPLICATION SOLUTIONS

OEM Manufacturer of Industrial Gas Filters

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COMPANY PROFILE

HENGKO Technology Co., Ltd. is a high-tech enterprise specializing in the R&D, production, sales, and OEM/ODM services of high-difficulty sintered filters and semiconductor gas filters.

With more than 20 years of deep industry experience, HENGKO has taken "Solving the filtration, Perception and Analysis problems of the Gas and Liquid world, Achieve the future of science and technology, and Make life healthier" as our mission, and continuously improving product performance and quality to fill the relevant technical gaps in the fields of gas filtration and fluid control, and help customers continuously improve product competitiveness.

HENGKO boasts a strong engineering team with autonomous innovation capabilities and extensive industry customization experience. With a systematic, rigorous, and efficient product design and production system, it offers a comprehensive range of solutions, from technical services to product development, and from problem-solving to process design, providing clients with diversified and all-encompassing support.

HENGKO's products are widely used in industries such as semiconductor, aerospace, new energy, instrumentation, pharmaceutical machinery, environmental protection, filtration, petroleum, natural gas, chemicals, valves, fluids, environmental detection, food, health, and agriculture.

HONORS AND CERTIFICATIONS

CONTENT

CUSTOMIZATION SERVICES

· **HENGKO metal gas filters are the preferred choice for high-purity/ultra-purity gas filtration systems :**

1.Stainless steel construction: Ideal for high-temperature and high-pressure applications.
2.Advanced filtration and separation solutions: Tailored for semiconductor manufacturing.
3.Advanced nano-filtration capability: Ensures superior interception performance.
4.Optimized performance: Achieves the best results while reducing costs.

HENGKO's metal gas filters come in a variety of specifications and models, offering OEM customization services. We can design and manufacture according to your requirements, providing the most professional filtration solutions for your project!

· **Product Features:**

- High-temperature resistant, high-pressure resistant, and corrosion resistant
- High flow rate, low resistance
- Ultra-high particle interception efficiency
- 316L stainless steel
- Configured with two-valve, three-valve, and four-valve components
- 100% helium leak detection test
- Impurity content in the outlet gas is less than 5ppb
- Suitable for various process gases
- Built-in 0.003-100 micron filter

Pore size	Nanometer-scale	3nm、50nm、100nm、200nm、500nm，Customizable
	Micrometer-scale	1μm - 100μm

BF Series

Bulk Gas Filters

· INTRODUCTION

BF series bulk gas filters are specifically designed for ultra-high-purity process gas filtration.

Precisely crafted from 316L stainless steel, bulk gas filters feature a multi-column or stacked disk media design to ensure low pressure drop even at high flow rates, with a filtration accuracy of up to 0.003 μm to meet ultra-high-purity process requirements. The all-metal construction makes them the ideal filtration solution for high-temperature dynamic environments.

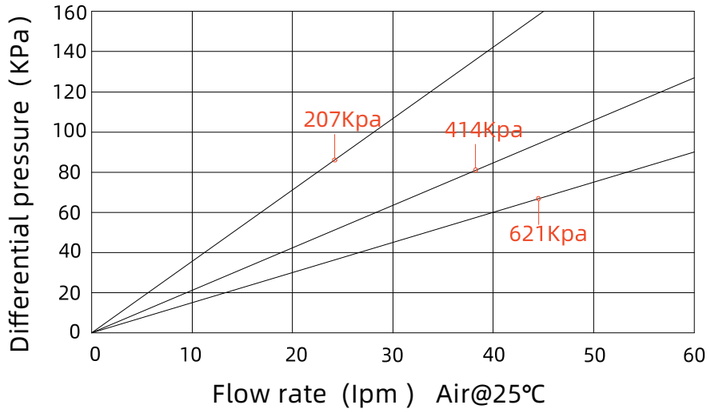
· TECHNICAL SPECIFICATIONS

Filter Material	316L stainless steel Powder Sintered		**Housing Material**	316L stainless steel	
Max Inlet Pressure	207bar		**Maximum Operating Pressure Differential**	5.2bar	
Helium Leak Rate Verification	$2x10^{-10}$cc/min		**Helium Leak Test Rate**	$1x10^{-10}$cc/min	
Surface Treatment	Outer Surface	Ra < 1.6μm	**Maximum Operating Temperature**	Inert gases	400-500℃
	Inner Surface	Ra < 0.2μm		Corrosive gases Reactive gases	50℃
Particle Interception Efficiency	≥99.9999999%（9LRV）@30slpm		**Downstream Cleanliness**	≤0.03particles/liter @＞0.01μm，30slpm	
Particle Interception Size	≥0.003μm				

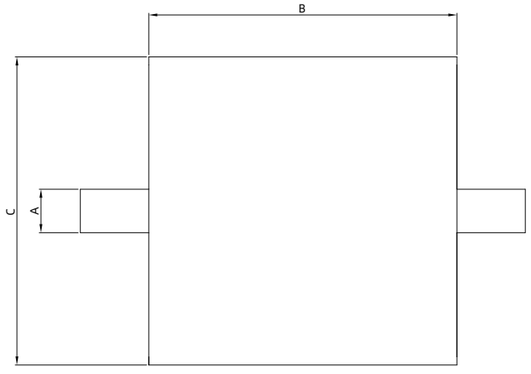
· FEATURES

- 316L Stainless Steel
- High Flow Rate, Low Resistance
- Ultra-High Particle Retention Efficiency
- High Temperature, High Pressure, and Corrosion Resistance
- Suitable for Various Process Gases
- Applicable in Cleanroom Environments for Manufacturing, Testing, and Packaging
- 100% Integrity Testing
- 100% Helium Leak Detection Testing

· FLOW RATE VS. DIFFERENTIAL PRESSURE CURVE



· EXTERNAL DIMENSIONS



· SPECIFICATIONS

Product model	Filter material	Filter Accuracy (μm)	Connection type
Z01B-00647	316L stainless steel	10~0.003 Customizable upon request	1/4″ VCR
Z01B-00648			1/2″ VCR
Z01B-00649			1/8″ VCR
Z01B-00650			1″ VCR

· Custom design available

TF series

Process Gas Filters

· F-type Straight Gas Filter

· T-type Gas Filter

· W-type Integrated Gas Filter

· INTRODUCTION

TF series process gas filters ensuring the precise removal of micro-particles in UHP ultra-pure gas streams to maintain production purity. With an easy installation process requiring only gas line connections and nut tightening, it eliminates welding risks and ensures a reliable seal. Crafted entirely from premium 316L stainless steel, the filters feature a compact and lightweight design, significantly reducing pressure loss while delivering exceptional particle filtration efficiency. They are the ideal choice for process gas purification.

· FILTER AREA

Filter Type	Filter area specification	Filter area (mm^2)	
		Sintered-type	Mesh-type
F-type straight filters	2	350	/
	4	830	640
	8	1280	1090
T-type	2	830	640
	4	830	640
	8	1280	1090
W-type integrated filters	/	/	254

Note: 1.F-type straight filters do not provide mesh-type filter elements,for filter area specifications 2 .
2.W-type integrated filters only provide mesh-type filter elements.

· TECHNICAL SPECIFICATIONS

Filter Material	316L stainless steel Powder Sintered		**Housing Material**	316L stainless steel	
Helium Leak Rate Verification	$2x10^{-10}$cc/min		**Helium Leak Test Rate**	$1x10^{-10}$cc/min	
Surface Treatment	Outer Surface	Ra < 1.6μm	**Maximum Operating Temperature**	Inert gases	400-500℃
	Inner Surface	Ra < 0.2μm		Corrosive gases Reactive gases	50℃
Particle Interception Efficiency	≥99.9999999% (9LRV) @30slpm		**Downstream Cleanliness**	≤0.03particles/liter @＞0.01μm，30slpm	
Particle Interception Size	≥0.003μm				

· FEATURES

- 316L Stainless Steel
- High Flow Rate, Low Resistance
- Ultra-High Particle Retention Efficiency
- High Temperature, High Pressure, and Corrosion Resistance
- Suitable for Various Process Gases
- Applicable in Cleanroom Environments for Manufacturing, Testing, and Packaging
- 100% Integrity Testing
- 100% Helium Leak Detection Testing

· FLOW RATE DATE

Type	Filter area specification	Nominal pore size μm	Filter element type	Inlet Pressure，bar（psig）			Pressure differential，bar（psig）		
				0.34（5）	0.68（10）	1.0（15）	0.68（10）	3.4（50）	6.8（100）
				Air Flow rate，std ft3/min（L/min）			Water Flow rate，U.S.gal/min（L/min）		
F-type straight filters	2	0.5	Sintered	0.04（1.1）	0.06（1.7）	0.12（3.4）	0.01（0.03）	0.04(0.15)	0.12(0.45)
		2	Sintered	0.20（5.6）	0.40（11）	0.60（17）	0.08（0.30）	0.24(0.91)	0.40（1.5）
		7	Sintered	0.50（14）	0.90（25）	1.2（34）	0.10（0.37）	0.30（1.1）	0.48（1.8）
		15	Sintered	0.80（22）	1.3（36）	1.5（42）	0.12（0.45）	0.36（1.3）	0.58（2.1）
		60	Sintered	1.7（48）	2.2（62）	2.4（68）	0.15（0.56）	0.50（1.8）	0.70（2.6）
		80	Sintered	1.8（51）	2.2（62）	2.6（73）	0.20（0.75）	0.50（1.8）	0.60（2.2）
	4	0.5	Sintered	0.12（3.4）	0.26（7.3）	0.48（13）	0.04（0.15）	0.17(0.64)	0.29（1.0）
		2	Sintered	0.60（17）	1.4（39）	2.3 （65）	0.24（0.90）	0.86（3.2）	1.3（4.9）
		7	Sintered	1.4（39）	2.9（82）	4.7（130）	0.40（1.5）	1.3（4.9）	2.0（7.5）
		15	Sintered	1.2（34）	2.9（82）	4.7（130）	0.50（1.8）	1.3（4.9）	2.1（7.9）
		60	Sintered	3.1（87）	5.9（160）	8.5（240）	0.90（3.4）	3.3（12）	4.6（17）
		80	Sintered	4.1（110）	7.5（210）	10（280）	1.2（4.5）	4.2（15）	6.1（23）
		40、60、80、100、150、250、450	Mesh-type	4.7（130）	8.8（250）	12（340）	1.7（6.4）	5.6（21）	7.8（29）
	8	0.5	Sintered	0.36（10）	0.86（24）	1.6（45）	0.09（0.34）	0.40（1.5）	0.76（2.8）
		2	Sintered	1.4（39）	2.8（79）	4.0（110）	0.26（0.98）	1.1（4.1）	1.6（6.0）
		7	Sintered	1.8（51）	4.2（119）	6.8（190）	0.64（2.4）	2.2（8.3）	3.5（13）
		15	Sintered	1.8（51）	4.9（130）	7.9（220）	0.84（3.1）	2.6（9.8）	4.1（15）
		60	Sintered	5.1（140）	10（280）	15（420）	2.0（7.5）	6.7（25）	10（37）
		80	Sintered	6.1（170）	11（310）	16（450）	2.3（8.7）	7.6（28）	11（41）
		40、60、80、100、150、250、450	Mesh-type	7.2（200）	14（390）	20（560）	4.8（18）	15（56）	19（71）

· FLOW RATE DATA

Type	Filter area specification	Nominal pore size μm	Filter element type	Inlet Pressure, bar (psig)			Pressure differential, bar (psig)		
				0.34 (5)	0.68 (10)	1.0 (15)	0.68 (10)	3.4 (50)	6.8 (100)
				Air Flow rate, std ft3/min (L/min)			Water Flow rate, U.S.gal/min (L/min)		
T-type	2	0.5	Sintered	0.04 (1.1)	0.06 (1.7)	0.12 (3.4)	0.04 (0.15)	0.17 (0.64)	0.29 (1.0)
		2	Sintered	0.20 (5.6)	0.40 (11)	0.60 (17)	0.08 (0.30)	0.24 (0.91)	0.40 (1.5)
		7	Sintered	0.50 (14)	0.90 (25)	1.2 (34)	0.10 (0.37)	0.30 (1.1)	0.48 (1.8)
		15	Sintered	0.80 (22)	1.3 (36)	1.5 (42)	0.12 (0.45)	0.36 (1.3)	0.58 (2.1)
		60	Sintered	1.7 (48)	2.2 (62)	2.4 (68)	0.15 (0.56)	0.50 (1.8)	0.70 (2.6)
		80	Sintered	1.8 (51)	2.2 (62)	2.6 (73)	0.20 (0.75)	0.50 (1.8)	0.60 (2.2)
		40、60、80、100、150、250、450	Mesh-type	1.8 (51)	2.3 (6.5)	2.6 (73)	0.20 (0.75)	0.50 (1.8)	0.60 (2.2)
	4	0.5	Sintered	0.12 (3.4)	0.26 (7.3)	0.48 (13)	0.04 (0.15)	0.17 (0.64)	0.29 (1.0)
		2	Sintered	0.60 (17)	1.4 (39)	2.3 (65)	0.24 (0.90)	0.86 (3.2)	1.3 (4.9)
		7	Sintered	1.4 (39)	2.9 (82)	4.7 (130)	0.40 (1.5)	1.3 (4.9)	2.0 (7.5)
		15	Sintered	1.2 (34)	2.9 (82)	4.7 (130)	0.50 (1.8)	1.3 (4.9)	2.1 (7.9)
		60	Sintered	3.1 (87)	5.9 (160)	8.5 (240)	0.80 (3.0)	2.7 (10)	3.9 (14)
		80	Sintered	4.1 (110)	7.5 (210)	10 (280)	1.1 (4.1)	3.4 (12)	4.9 (18)
		40、60、80、100、150、250、450	Mesh-type	4.7 (130)	8.8 (250)	12 (340)	1.2 (4.5)	4.2 (15)	5.6 (21)
	8	0.5	Sintered	0.36 (10)	0.86 (24)	1.6 (45)	0.09 (0.34)	0.40 (1.5)	0.76 (2.8)
		2	Sintered	1.4 (39)	2.8 (79)	4.0 (110)	0.26 (0.98)	1.1 (4.1)	1.6 (6.0)
		7	Sintered	1.8 (51)	4.2 (119)	6.8 (190)	0.64 (2.4)	2.2 (8.3)	3.5 (13)
		15	Sintered	1.8 (51)	4.9 (130)	7.9 (220)	0.84 (3.1)	2.6 (9.8)	4.1 (15)
		60	Sintered	5.1 (140)	10 (280)	15 (420)	1.5 (5.6)	4.8 (18)	6.7 (25)
		80	Sintered	6.1 (170)	11 (310)	16 (450)	1.7 (6.4)	5.5 (20)	7.6 (28)
		40、60、80、100、150、250、450	Mesh-type	7.2 (200)	14 (390)	20 (560)	2.4 (9.0)	7.2 (27)	10 (37)
W-type	/	0.5	Mesh-type	0.04 (1.1)	0.06 (1.7)	0.12 (3.4)	0.01 (0.03)	0.04 (0.15)	0.12(0.45)

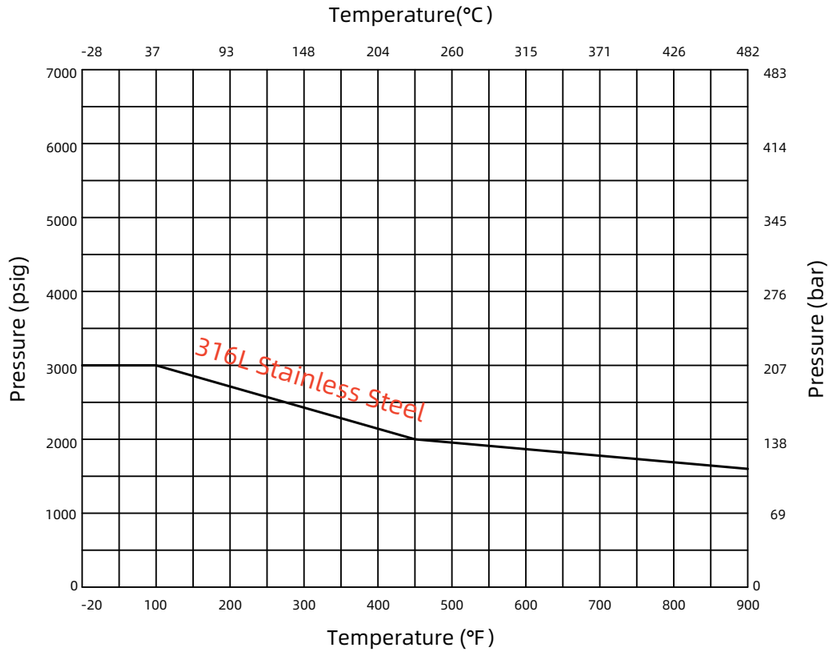
F-TYPE STRAIGHT FILTER

· Compact structure, saves space

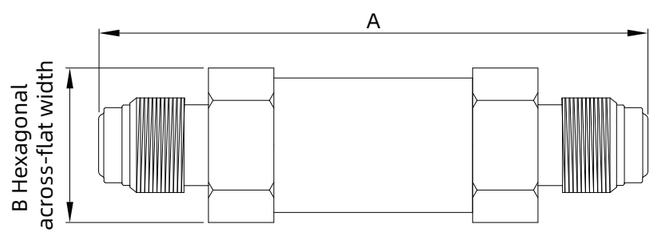
· Operating pressure up to: 207 bar (3000 psig)

· Operating temperature: -28 ~ +482℃

· TEMPERATURE DIFFERENTIAL CURVE



· EXTERNAL DIMENSIONS



· SPECIFICATIONS

Product model	End connection type and size	Filter area specification	Dimension (mm)	
			A	B
Z01B-00652	1/8 in.Double ferrule	2	59.7	14.3
Z01B-00651	1/4 in.Double ferrule	4	74.9	19.1
Z01B-00653	3/8 in.Double ferrule	8	81.5	25.4
Z01B-00654	1/2 in.Double ferrule	8	88.6	25.4
Z01B-00585	3mm.Double ferrule	2	60.5	14.3
Z01B-00655	6mm.Double ferrule	4	75.2	19.1
Z01B-00656	1/8 in.NPT Female Thread	2	54.9	14.3
Z01B-00657	1/4 in.NPT Female Thread	4	72.9	19.1
Z01B-00658	1/8 in.NPT Male Thread	2	47.7	14.3
Z01B-00659	1/4 in.NPT Male Thread	4	68.3	19.1
Z01B-00660	1/8 VCR Male Thread	2	70.8	19.1
Z01B-00661	1/4 VCR Male Thread	4	70.8	19.1
Z01B-00662	1/8 RC Female Thread	2	54.9	14.3
Z01B-00663	1/4 RC Female Thread	4	72.9	19.1
Z01B-00702	1/8 RC Male Thread	2	47.7	14.3
Z01B-00703	1/4 RC Male Thread	4	68.3	19.1

· Custom design available

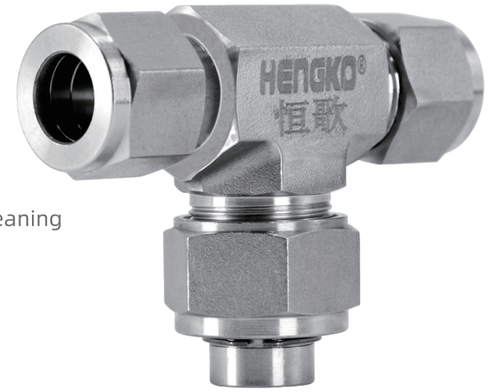
T-TYPE FILTER

· Combined valve cap design, safer

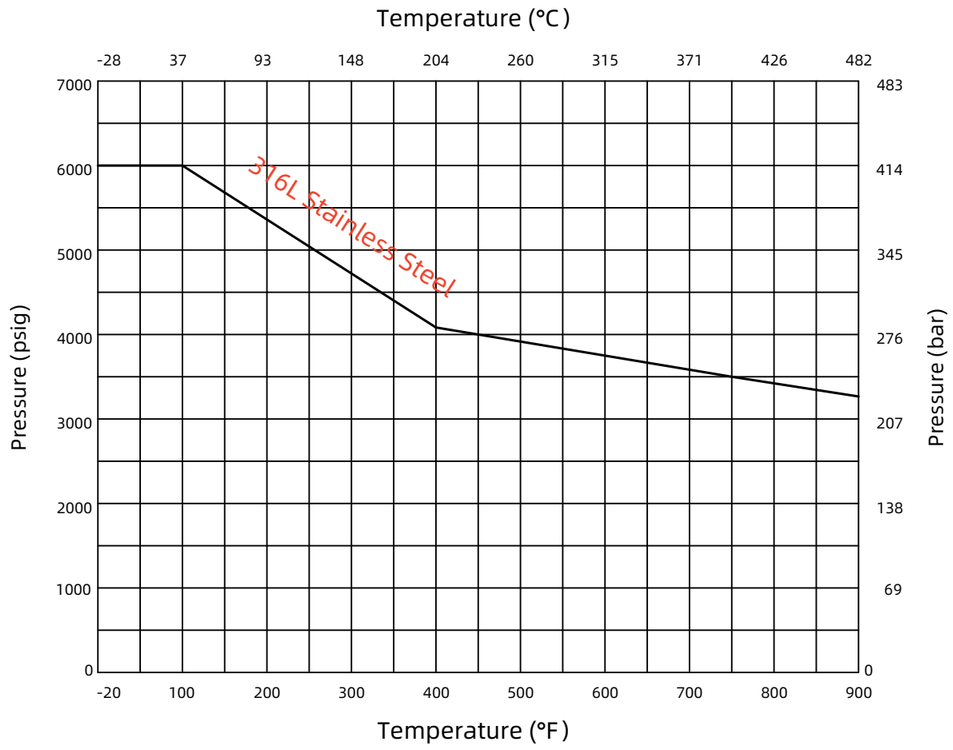
· Operating temperature: -28 ~ +482°C

· Operating pressure up to: 414 bar (6000 psig)

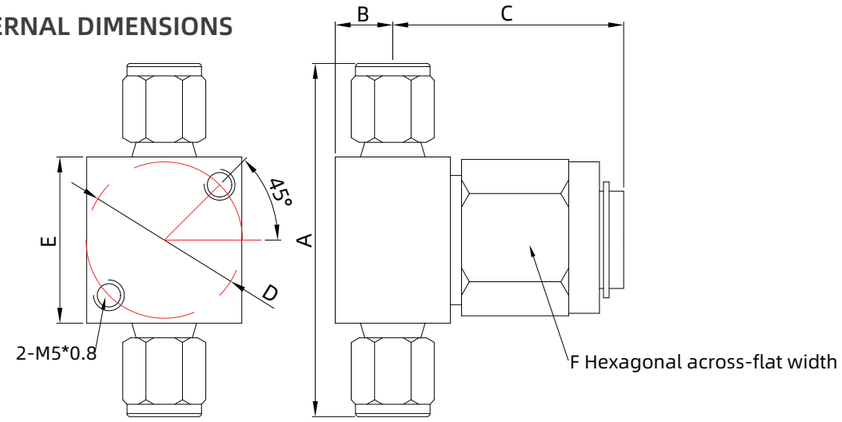
· Optional bottom bypass, usable for sampling and cleaning



· TEMPERATURE DIFFERENTIAL CURVE



· EXTERNAL DIMENSIONS



· SPECIFICATIONS

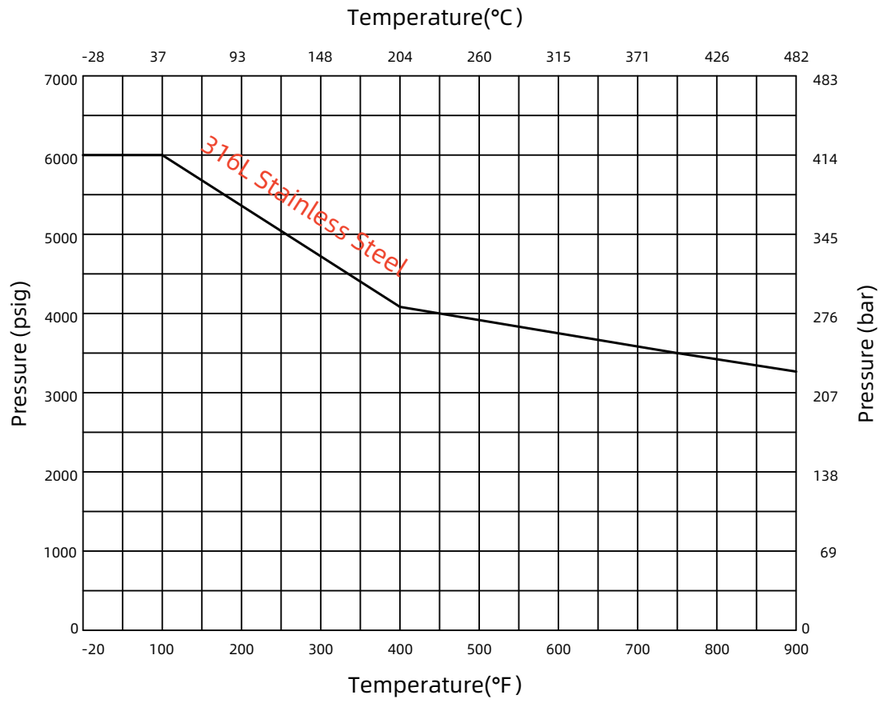
Product model	End connection type and size	Filter area specification	Dimensions（mm）					
			A	B	C	D	E	F
Z01B-00664	1/8 in.Double ferrule	2	57.7	9.7	37.8	25.4	25.4	25.4
Z01B-00614	1/4 in.Double ferrule	4	62.7	9.7	37.8	25.4	25.4	25.4
Z01B-00665	3/8 in.Double ferrule	8	72.1	11.7	44.2	28.7	28.7	28.6
Z01B-00666	1/2 in.Double ferrule	8	77.2	11.7	44.2	28.7	28.7	28.6
Z01B-00667	6mm.Double ferrule	4	62.5	9.7	37.8	25.4	25.4	25.4
Z01B-00668	8mm.Double ferrule	8	72.1	11.7	44.2	28.7	28.7	28.6
Z01B-00669	10mm.Double ferrule	8	72.6	11.7	44.2	28.7	28.7	28.6
Z01B-00670	12mm.Double ferrule	8	77.2	11.7	44.2	28.7	28.7	28.6
Z01B-00671	1/4 in.Tube Pipe socket welding	4	42.7	9.7	25.4	25.4	25.4	25.4
Z01B-00672	3/8 in.Tube Pipe socket welding	4	42.7	9.7	25.4	25.4	25.4	25.4
Z01B-00673	1/4 in.Tube Butt welding	4	42.7	9.7	25.4	25.4	25.4	25.4
Z01B-00674	3/8 in.Tube Butt welding	4	42.7	9.7	25.4	25.4	25.4	25.4
Z01B-00675	1/8 in.NPT Female Thread	2	50.8	9.7	37.8	25.4	25.4	25.4
Z01B-00676	1/4 in.NPT Female Thread	4	54.1	9.7	37.8	25.4	25.4	25.4
Z01B-00677	1/4 in.NPT Male Thread	4	54.1	9.7	37.8	25.4	25.4	25.4
Z01B-00678	3/8 in.NPT Male Thread	8	60.5	11.7	44.2	28.7	28.7	28.6
Z01B-00679	1/2 in.NPT Male Thread	8	69.9	11.7	44.2	28.7	28.7	28.6
Z01B-00680	1/4VCR Male Thread	4	58.4	9.7	37.8	25.4	25.4	25.4
Z01B-00681	1/2 VCR Male Thread	8	64.8	11.7	44.2	28.7	28.7	28.6

· Custom design available

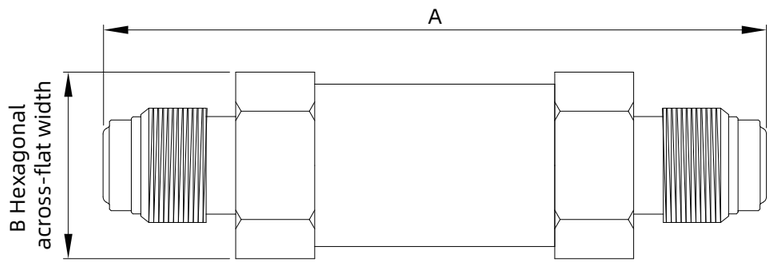
W-TYPE INTEGRATED FILTER

· Large filter area, high flow rate coefficient, fully welded structure, eliminates leakage
· Perform flushing process during reverse flow
· Valve body and filter element are fully penetration welded
· Nominal pore sizes of filter elements: 0.5, 2, 7, 15, 40 μm
· Operating pressure up to: 414 bar (6000 psig)
· Operating temperature: -28 ~ +482℃

· TEMPERATURE DIFFERENTIAL CURVE



· EXTERNAL DIMENSIONS



· SPECIFICATIONS

Product Model	End connection type and size	Dimensions （mm）	
		A	B
Z01B-00682	1/4 in.Double ferrule	54.6	25.4
Z01B-00683	6mm.Double ferrule	54.6	25.4
Z01B-00684	1/4 in.NPT NPT Female Thread	39.9	25.4
Z01B-00685	1/4 in.NPT Male Thread	48	25.4
Z01B-00686	1/4 in.VCR Male Thread	51.8	25.4

· Custom design available

SF Series

IGS Gas Filter

· INTRODUCTION

SF Series IGS gas Filter, designed for semiconductor industry integrated gas delivery and control systems, is compatible with various sealing standards, including C-type and W-type. It achieves high-efficiency particle filtration at 0.003 μm, ensuring 9-LRV cleanliness. Supporting flow rates up to 100 SLPM, it helps facilitate seamless equipment upgrades. The filter features a robust 316L stainless steel construction, combining compact design with full welding and mechanical sealing technology. It uses SEMI-compliant surface-mount components, making system integration and modular design upgrades easier, with convenient and efficient installation and maintenance.

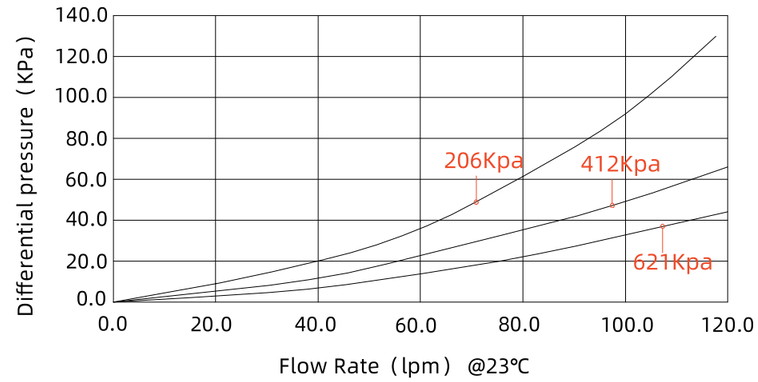
· SPECIFICATIONS

Filter Material	316L stainless steel Powder Sintered		**Housing Material**	316L stainless steel
Max Inlet Pressure	3.4Mpa@100℃		**Maximum Operating Pressure Differential**	0.69Mpa@100℃
Helium Leak Rate Verification	$1x10^{-11}$cc/min		**Helium Leak Test Rate**	$1x10^{-9}$cc/min
Surface Treatment	Outer Surface	Ra < 1.6μm	**Maximum Operating Temperature**	460℃
	Inner Surface	Ra < 0.13μm		
Particle Interception Efficiency	≥99 . 9999999% (9LRVV) @120slpm		**Downstream Cleanliness**	Particle Release: ≤0.03particles/liter (<1particle/ft3) greater than 0.01μm Volatiles: <10ppb moisture
Particle Interception Size	≥0.003μm		**Flow Range**	0~120slpm

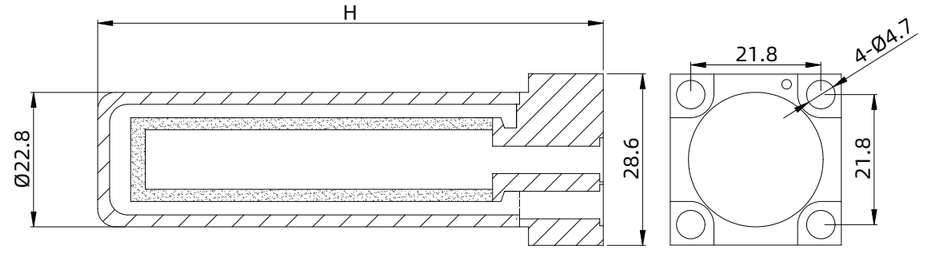
· FEATURES

- Entire 316L stainless steel structure
- Miniaturized design, compact structure, does not occupy space
- Excellent gas exchange and desorption characteristics
- High temperature resistance, high pressure resistance, corrosion resistance
- Electro-polished 316L stainless steel casing
- Convenient and efficient for installation and maintenance
- Uses mechanical sealing, structurally non-welded with the medium

· FLOW RATE VS PRESSURE DIFFERENTIAL CURVE



· EXTERNAL DIMENSIONS



· SPECIFICATIONS

Product Model	Flow Rate	Height H (mm)	Filter Accuracy (μm)	Cleaning Rate
Z01B-00638	10slpm	48.0	10~0.003 Customizable upon request	C
Z01B-00637	40slpm	84.0		
Z01B-00687	80slpm	126.2		
Z01B-00688	120slpm	167.9		

· Custom design available

OF series

Online Gas Filters

· INTRODUCTION

OF series online gas filters are specially designed for ultra-purification of high-flow rate electronic-grade gases, with filtration accuracy up to 0.003 μm. Their compact structure, high strength, and compatibility with various semiconductor process gases make them particularly suitable for bulk gases and inert gases. This series features a fully welded 316L stainless steel housing, ensuring compatibility with most high-purity semiconductor process gases. It is ideal for high-flow rate specialty gas supply and ultra-high-purity gas bars, providing ultra-pure filtration in semiconductor, LED, photovoltaic, and MEMS device connections, meeting the needs of valve manifolds, gas cabinets, and other process requirements.

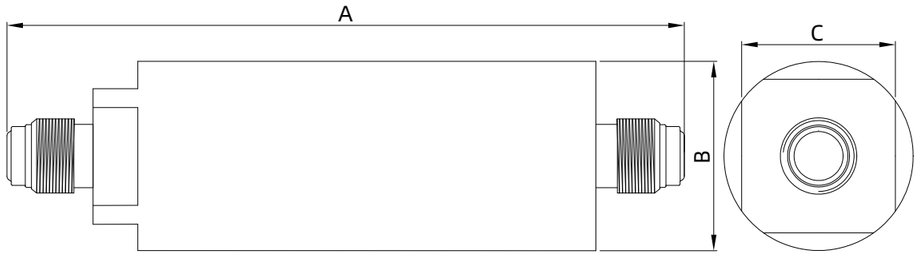
· TECHNICAL SPECIFICATIONS

<table>
<tr><td>Filter Material</td><td colspan="2">316L stainless steel Powder Sintered</td><td>Housing Material</td><td colspan="2">316L stainless steel</td></tr>
<tr><td>Max Inlet Pressure</td><td colspan="2">207bar</td><td>Maximum Operating Pressure Differential</td><td colspan="2">5.2bar</td></tr>
<tr><td>Helium Leak Rate Verification</td><td colspan="2">$2x10^{-10}$cc/min</td><td>Helium Leak Test Rate</td><td colspan="2">$1x10^{-10}$cc/min</td></tr>
<tr><td rowspan="2">Surface Treatment</td><td>Outer Surface</td><td>Ra < 1.6μm</td><td rowspan="2">Maximum Operating Temperature</td><td>Inert gases</td><td>400-500℃</td></tr>
<tr><td>Inner Surface</td><td>Ra < 0.2μm</td><td>Corrosive gases
Reactive gases</td><td>50℃</td></tr>
<tr><td>Particle Interception Efficiency</td><td colspan="2">≥99.9999999%（9LRV）
@30slpm</td><td>Downstream Cleanliness</td><td colspan="2">≤0.03particles/liter
@＞0.01μm，30slpm</td></tr>
<tr><td>Particle Interception Size</td><td colspan="2">≥0.003μm</td><td></td><td colspan="2"></td></tr>
</table>

· FEATURES

- Complete 316L Stainless Steel Construction
- Suitable for High-Temperature Applications
- Ultra-High Particle Interception Efficiency
- High Flow Rate, High Strength, Stable and Reliable
- Suitable for Various Process Gases
- Optional Online Installation at Other Locations, Convenient and Fast
- 100% Integrity Test
- 100% Helium Leak Test

· EXTERNAL DIMENSIONS



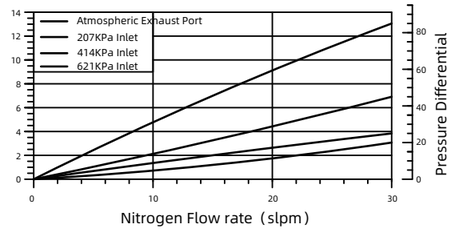
· SPECIFICATIONS

Product Model	Connection type	Maximum operating pressure	Maximum pressure differential	Dimensions		
				A	B	C
Z01B-00712	1/4 Double external thread surface sealing	25.9MPa(3750psig)	3.4MPa(500psig)	84.0mm(3.31″)	19.0mm(0.75″)	20.6mm(0.81″)
Z01B-00723	1/4 Butt-weld short pipe	25.9MPa(3750psig)	3.4MPa(500psig)	84.0mm(3.31″)	19.0mm(0.75″)	N/A
Z01B-00394	1/4 Double external thread surface sealing	25.9MPa(3750psig)	3.4MPa(500psig)	106mm(3.31″)	29.5mm(0.75″)	24mm(0.94″)
Z01B-00713	1/4 Double external thread surface sealing	25.9MPa(3750psig)	5.2MPa(750psig)	127.0mm(5.00″)	19.0mm(0.75″)	20.6mm(0.81″)
Z01B-00724	1/4 Butt-weld short pipe	25.9MPa(3750psig)	5.2MPa(750psig)	127.0mm(5.00″)	19.0mm(0.75″)	N/A
Z01B-00714	1/2 Double external thread surface sealing	25.9MPa(3750psig)	5.2MPa(750psig)	84.0mm(3.31″)	19.0mm(0.75″)	22.2mm(0.875″)
Z01B-00715	1/4 Double external thread surface sealing	17.2MPa(2500psig)	3.4MPa(500psig)	84.0mm(3.31″)	38.1mm(1.50″)	26.9mm(1.062″)
Z01B-00716	1/2 Double external thread surface sealing	17.2MPa(2500psig)	3.4MPa(500psig)	127.0mm(5.00″)	38.1mm(1.50″)	26.9mm(1.062″)
Z01B-00717	1/4 Double external thread surface sealing	17.2MPa(2500psig)	3.4MPa(500psig)	127.0mm(5.00″)	38.1mm(1.50″)	26.9mm(1.062″)
Z01B-00718	1/2 Double external thread surface sealing	17.2MPa(2500psig)	3.4MPa(500psig)	285.0mm(11.22″)	38.1mm(1.50″)	26.9mm(1.062″)
Z01B-00719	1/2 Double external thread surface sealing	17.2MPa(2500psig)	3.4MPa(500psig)	225.0mm(8.86″)	38.1mm(1.50″)	26.9mm(1.062″)
Z01B-00720	1/2 Double external thread surface sealing	4.5MPa(650psig)	1.7MPa(250psig)	84.0mm(3.31″)	76.2mm(3.00″)	23.8mm(0.94″)
Z01B-00721	1/2 Double external thread surface sealing	4.5MPa(650psig)	1.7MPa(250psig)	246.4mm(9.70″)	76.2mm(3.00″)	N/A
Z01B-00722	1/2 Double external thread surface sealing	4.5MPa(650psig)	1.7MPa(250psig)	267.5mm(10.53″)	76.2mm(3.00″)	33.3mm(1.31″)

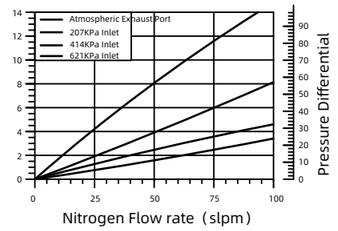
· Custom design available

· FLOW RATE VS PRESSURE DIFFERENTIAL CURVE

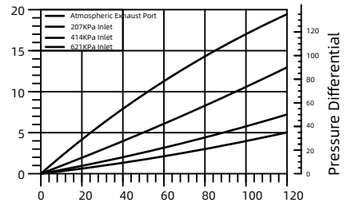
Z01B-00712 Flow rate and pressure differential
Typical flow rate curve as a function of system pressure



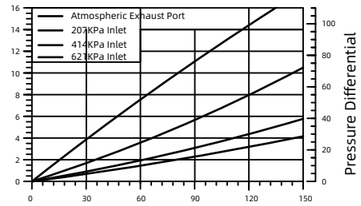
Z01B-00713 Flow rate and pressure differential
Typical flow rate curve as a function of system pressure



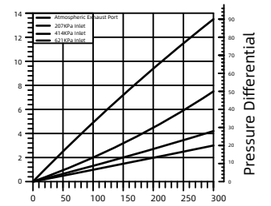
Z01B-00715
Flow rate and pressure differential
Typical Flow Rate Curve as a Function of System Pressure



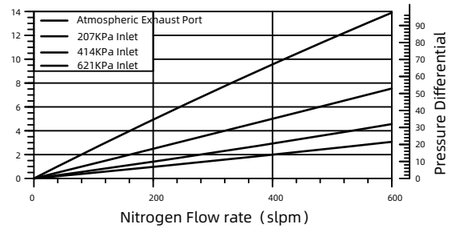
Z01B-00716
Flow rate and pressure differential
Typical flow rate curve as a function of system pressure



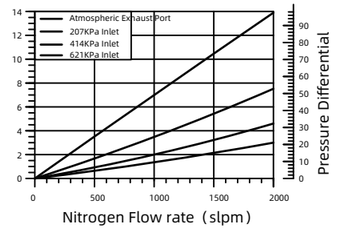
Z01B-00717
Flow rate and pressure differential
Typical flow rate curve as a function of system pressure



Z01B-00719 Flow rate and pressure differential
Typical flow rate curve as a function of system pressure

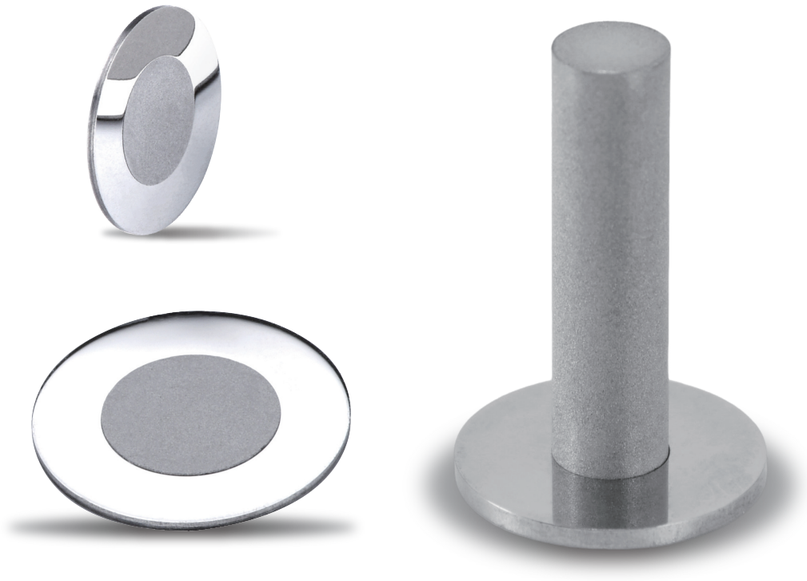


Z01B-00720 Flow rate and pressure differential
Typical flow rate curve as a function of system pressure



MF Series
VCR Gas Filters

· Suitable for high-pressure system pipelines
· Suitable for low-pressure system pipelines



· INTRODUCTION

MF series VCR gas filters are made of all-metal materials and are specially designed for semiconductor gas distribution systems. They are compatible with 1/4", 3/8", and 1/2" VCR standard gasket connections. Featuring a gasket-type, easy-installation design, this filter serves as an essential protective barrier for MFC modules, precision valves, and pressure-regulating equipment. It effectively blocks particle intrusion in environments up to 400°C, safeguarding sensitive gas components, extending equipment life, and preventing leakage risks caused by particle contamination. Available in low-pressure and high-pressure versions, it can also be installed on existing piping, providing an economical and efficient protective barrier for precision equipment.

· TECHNICAL SPECIFICATIONS

Filter Material	316L stainless steel Powder Sintered		**Housing / Gasket Material**	316L stainless steel
Surface Treatment	Outer Surface	Ra < 1.6μm	**Maximum Operating Temperature**	400℃
	Inner Surface	Polished + Electrolytic Ra ≤ 0.2 μm		
Particle Interception Efficiency	≥99 . 9999999% (9LRVV) @100slpm (Reference MPPS, All Particles)		**Particle Interception Size**	≥0. 3μm

· FEATURES

- Complete 316L Stainless Steel Construction
- Serve as a Surface-Sealed Filter, No Additional Work Required (No Cutting/Welding of Piping for Filter Installation)
- High-Temperature, High-Pressure, and Corrosion-Resistant

FOR HIGH-PRESSURE SYSTEM PIPELINES

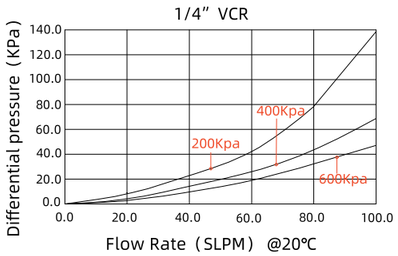
· Maximum forward pressure differential:

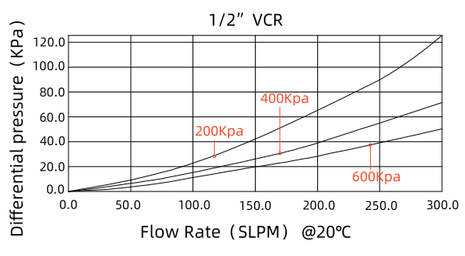
· 1/2'': 2.9Mpa

· 1/4'': 10.4Mpa

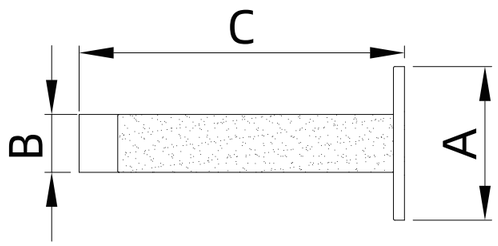
· Flow range: 0~300slpm

· FLOW RATE VS PRESSURE DIFFERENTIAL CURVE





· EXTERNAL DIMENSIONS



· SPECIFICATIONS

Product Model	Filter Accuracy (μm)	Gasket size	A	B	C
Z01B-00971	0.3μm Custom design available	1/4" VCR	Φ11.80mm	Φ4mm	20mm
Z01B-01014		1/2" VCR	Φ19.80mm	Φ7.40mm	29.50mm
Z01B-01037		3/4" VCR	Φ29mm	Φ17mm	25mm

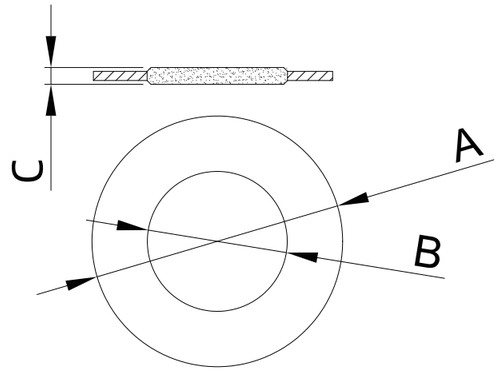
· Filtration accuracy (0.01-60 μm) and dimensions are customizable!

FOR LOW-PRESSURE SYSTEM PIPELINES (VCR Gas Filter)

· Maximum operating pressure:0.98Mpa

· Flow range: 0~100slpm

· EXTERNAL DIMENSIONS



· SPECIFICATIONS

Product Model	Filter Accuracy	Gasket size	A	B	C
Z01B-00690	0.3μm	1/4" VCR	Φ11.90mm	Φ5.50mm	0.70mm
Z01B-00640		1/2" VCR	Φ19.80mm	Φ11.20mm	0.70mm
Z01B-00691		3/4" VCR	Φ28mm	Φ16.80mm	0.70mm
Z01B-00693	1.0μm	1/4" VCR	Φ11.90mm	Φ5.50mm	0.70mm
Z01B-00694		1/2" VCR	Φ19.80mm	Φ11.20mm	0.70mm
Z01B-00692		3/4" VCR	Φ28mm	Φ16.80mm	0.70mm
Z01B-00725	5μm	1/4" VCR	Φ11.90mm	Φ5.70mm	0.70mm
Z01B-00726	10μm	1/4" VCR	Φ11.90mm	Φ5.70mm	0.70mm

· Filtration accuracy (0.01-60 μm) and dimensions are customizable!

DF Series
Diffuser Gas Filters

· INTRODUCTION

DF series diffuser gas filters combining the gas flow characteristics of the diffuser with the particle interception capabilities of high-efficiency filters, the diffuser-specific filter achieves a filtration accuracy of up to 0.003 μm. Its unique full 316L stainless steel construction ensures efficient filtration while cleverly avoiding turbulence, minimizing any impact on the process chamber environment, and effectively preventing particles or silicon wafers from being disturbed by the airflow. Customizable designs are available to flexibly accommodate various installation spaces.

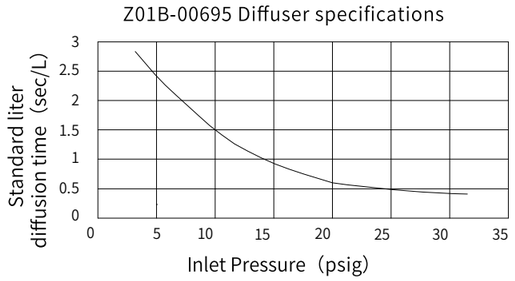
· TECHNICAL SPECIFICATIONS

Filter material	316L stainless steel Powder Sintered	**Housing Material**	316L stainless steel
Surface Treatment	Inner Surface: Ra≤32μm	**Filter Accuracy (μm)**	10~0.003 Customizable upon request
Max Inlet Pressure	4bar	**Maximum Operating Pressure Differential**	5bar
Maximum Operating Temperature	400℃	**Downstream Cleanliness**	≤0.03particles/liter @ > 0.01μm rated flow

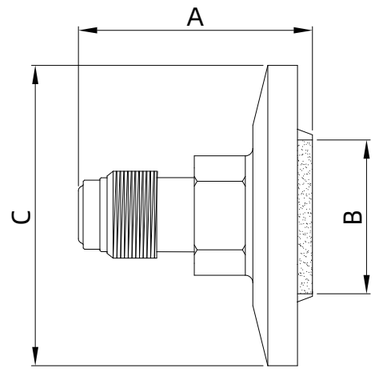
· FEATURES

- Stainless Steel Powder Sintered Medium, Enables Rapid Venting
- Complete 316L Stainless Steel Construction
- Reduces Turbulence During Process Chamber Venting,
- Suitable for Various Process Gases
- Manufactured, Tested, and Packaged in Cleanroom Environments
- 100% Integrity Test Passed
- 100% Helium Leak Test Passed
- High-Temperature, High-Pressure, and Corrosion-Resistant
- Prevents Particle Contamination, Helps Improve Product Yield
- Customizable Design Based on Installation Space

· SPECIFICATIONS



· EXTERNAL DIMENSIONS

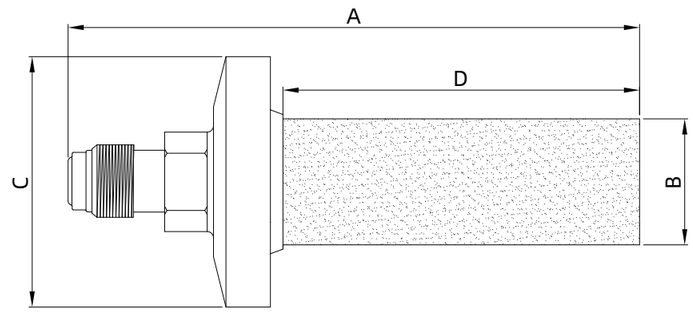


· SPECIFICATIONS

Product Model	Inlet specification	Outlet specification	Length A	Filter element ODϕB	Housing ODϕC
Z01B-00639	1/4''VCR	ISO NW40 Vacuum Flange	41.50mm (1.64'')	Φ45mm (1.53'')	Φ75mm (2.16'')
Z01B-00695	1/4''VCR	ISO NW50 Vacuum Flange	42mm (1.64'')	Φ52mm (2.05'')	Φ75mm (2.95'')
Z01B-00696	1/4''VCR	ISO NW100 Vacuum Flange	32mm (1.25'')	Φ99mm (3.92'')	Φ165mm (6.50'')

· Custom design available

· EXTERNAL DIMENSIONS



· SPECIFICATIONS

Product Model	Inlet specification	Outlet specification	Length A	Filter element ODϕB	Housing ODϕC	Filter tube length D
Z01B-00697	1/4''VCR	ISO NW16 Vacuum Flange	81mm (3.18'')	Φ16mm (0.64'')	Φ30mm (1.18'')	44mm (1.74'')
Z01B-00501	1/4''VCR	ISO NW25 Vacuum Flange	104mm (4.08'')	Φ14mm (0.64'')	Φ40mm (1.58'')	60mm (2.64'')
Z01B-00698	1/4''VCR	ISO NW16 Vacuum Flange	135mm (5.30'')	Φ16mm (0.64'')	Φ30mm (1.18'')	98mm (3.86'')
Z01B-00699	1/4''VCR	ISO NW25 Vacuum Flange	81mm (3.18'')	Φ16mm (0.64'')	Φ40mm (1.58'')	44mm (1.74'')
Z01B-00701	1/4''VCR	ISO NW40 Vacuum Flange	104mm (4.08'')	Φ16mm (0.64'')	Φ55mm (2.16'')	67mm (2.64'')

· Custom design available

HF Series

High-Pressure Gas Filter

· INTRODUCTION

HF series High-Pressure Gas Filter is designed for high-pressure, high-purity gas delivery systems and ultra-high-purity gas box systems. Its robust 316L stainless steel construction, combined with a 50 MPa design pressure and relatively lightweight design, offers high strength, high-temperature resistance, corrosion resistance, high permeability, and long service life. It efficiently filters out dust, rust, oil mist, and hydrocarbons from compressed air, protecting the system from contamination, thus improving gas quality and ensuring efficient equipment operation. The filter element is replaceable, making maintenance easy.

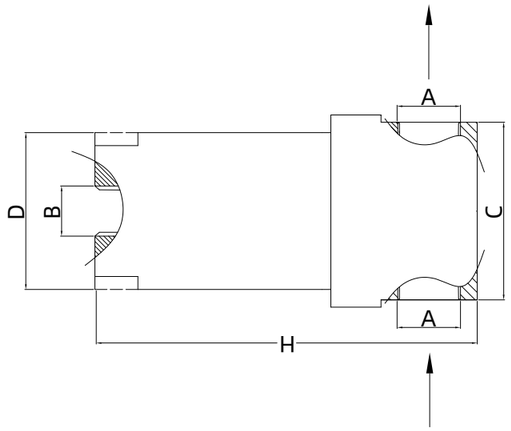
· TECHNICAL SPECIFICATIONS

<table>
<tr><td>Filter material</td><td colspan="2">316L stainless steel
Powder Sintered</td><td>Housing Material</td><td>316 L stainless steel</td></tr>
<tr><td rowspan="2">Surface Treatment</td><td>Outer Surface</td><td>Ra < 1.6μm</td><td rowspan="2">Filter Accuracy (μm)</td><td rowspan="2">10~0.003
Customizable upon request</td></tr>
<tr><td>Inner Surface</td><td>Electrolysis
Ra < 0.2μm</td></tr>
<tr><td>Maximum Operating Pressure</td><td colspan="2">500bar</td><td>Maximum Working Pressure Difference</td><td>5bar</td></tr>
<tr><td>Maximum Operating Temperature</td><td colspan="2">600℃</td><td>Downstream Cleanliness</td><td>≤0.03 particles/liter
@ > 0.01μm rated flow</td></tr>
<tr><td>Helium Leak Rate Verification</td><td colspan="2">1 x10-11 cc/min</td><td>Helium Leak Test Rate</td><td>1 x10- 9cc/min</td></tr>
</table>

· FEATURES

- Complete 316L Stainless Steel Construction
- Lightweight, Compact Design, Reduces Installation Space
- Thread Connection Ensures the Sealing of the Entire High-Pressure Gas Filter
- Compatible with Various Sealing Specifications, Including C-type and W-type
- High-Temperature, High-Pressure, and Corrosion-Resistant, with High Filtration
- Efficiency and Low Risk of Clogging
- Convenient and Efficient Installation and Maintenance
- 100% Integrity Test Passed
- 100% Helium Leak Test Passed

· EXTERNAL DIMENSIONS



· SEPCIFICATIONS

Product model	A	B	C（mm）	D（mm）	Height H(mm)	Filter Accuracy (μm)	Cleaning Level
Z01G-00001	NPT1/4	NPT1/4	39	31.5	98.5	10~0.003 Customizable upon request	C
Z01G-00002	NPT3/8	NPT3/8	56	45	198		
Z01G-00003	G1/2	M10*1.5	100	88	346		
Z01G-00004	NPT3/8	/	45	42	149		
Z01G-00005	G1-1/2	G1/2	125	113	440		
Z01G-00006	G1	G1/4	92	75	280		
Z01G-00007	G1	G1/2	92	75	220		

· Custom design available

KF series

Vacuum System Gas Filters

· INTRODUCTION

KF series vacuum system gas filters are easy to install in vacuum systems, making them particularly suitable for achieving a clean, fast, and low-turbulence backfilling process, effectively improving product yield and equipment throughput. Under standard installation and operating conditions, they ensure product integrity for up to 3,000,000 cycles. These filters are widely used in semiconductor equipment interfaces (such as CVD, PVD, Etch, Epi) and various vacuum chambers (load locks, transfer, cooling, and process chambers) for ventilation, making them ideal for applications that require the rapid transfer of large volumes of gas.

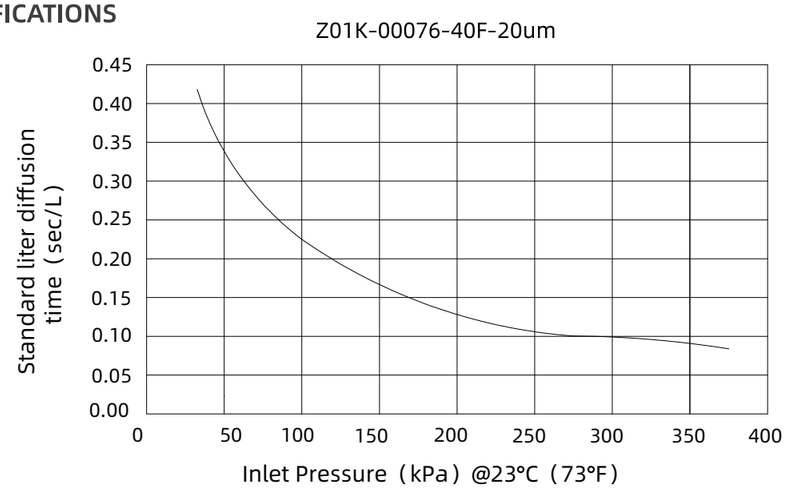
· FEATURES

- Reduces turbulence during process chamber exhaust
- Suitable for various process gases
- Manufactured, tested, and packaged in a cleanroom environment
- 100% integrity test passed

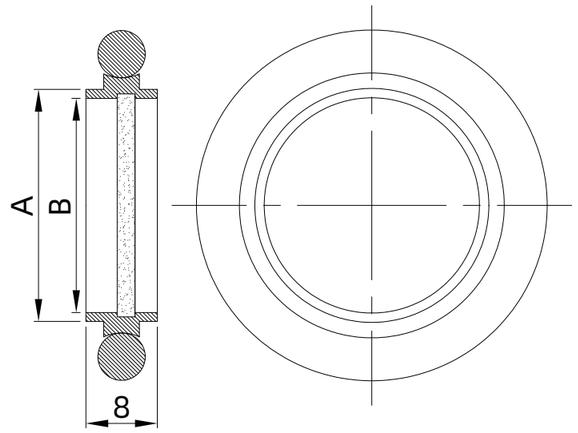
· TECHNICAL SPECIFICATIONS

Filter Material	316L Stainless Steel Powder Sintered	**Housing Material**	316L Stainless Steel
Maximum Inlet Pressure	6.89bar	**O-ring**	Fluororubber (Optional)
Maximum Working Pressure Difference	3bar	**Service Life**	≥100,000cycles
Maximum Operating Temperature	100℃ with O-ring 400℃ with no O-ring	**Downstream Cleanliness**	≤0.03particles/liter @＞0.01μm rate flow

· SPECIFICATIONS



· EXTERNAL DIMENSIONS

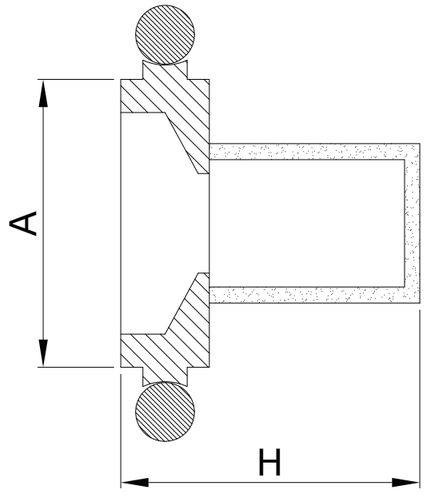


· SPECIFICATIONS

Product Model	Filtration Accuracy	Specifications	Fit Type	A（mm）	B（mm）
Z01K-00067	0.2μm、0.5μm、2.0μm、5.0μm、10.0μm、20.0μm	16F	NW16/KF16	19.96	15
Z01K-00036		25F	NW25/KF25	29.46	24
Z01K-00076		40F	NW40/KF40	44	38.60
Z01K-00077		50F	NW50/KF50	56.20	48.30
Z01K-00084		100F	NW100/KF100	101.60	98.90

· Custom design available

· EXTERNAL DIMENSIONS



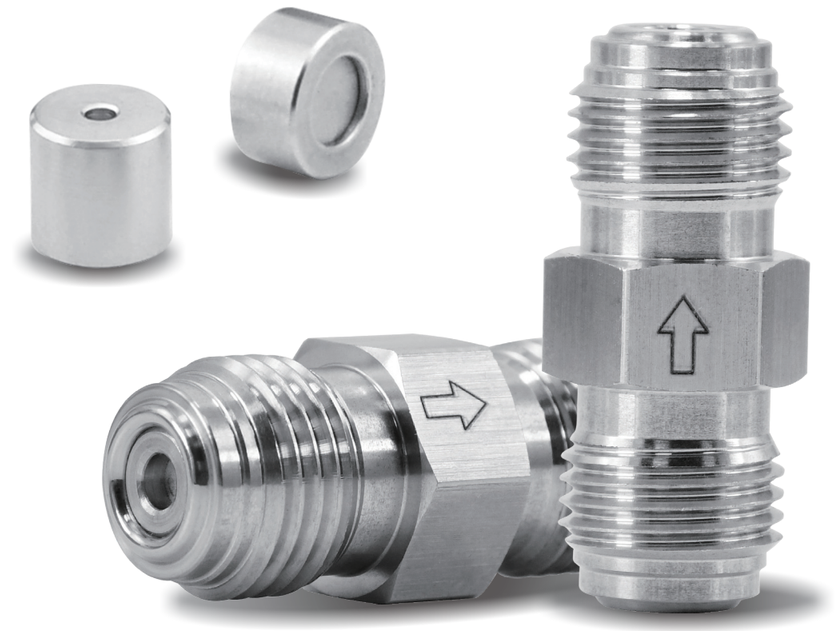
· SPECIFICATIONS

Product Model	Filtration accuracy	Specifications	Fit Type	A（mm）	H（mm）
Z01K-00018	0.2μm、0.5μm、2.0μm、5.0μm、10.0μm、20.0μm	16F	NW16/KF16	18.70	25.60
Z01K-00078		25F	NW25/KF25	29.46	27
Z01K-00081		40F	NW40/KF40	43.96	62
Z01K-00055		50F	NW50/KF50	43.96	38
Z01K-00083		100F	NW100/KF100	定制	98.90

· Custom design available

RF Series

Porous Metal Flow Restrictor



· PRODUCT INTRODUCTION

RF Series Porous Metal Flow Restrictor is designed to be installed in compressed gas supply lines and gas distribution manifolds, combined with various gas resistance accessories. It serves to prevent unexpected high gas flow rates caused by pipeline ruptures, valve failures, or pressure regulator malfunctions.In semiconductor process gas delivery and distribution systems, it ensures stable and reliable gas flow, reduces the burden on gas flow, and prevents overloading that could lead to undesirable consequences. The structure is robust, and replacement is convenient.

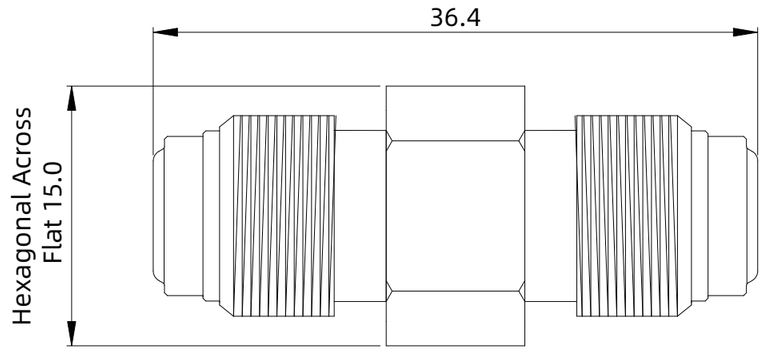
· TECHNICAL SPECIFICATIONS

Filter material	316L stainless steel Powder Sintered	**Housing Material**	316L stainless steel
Flow rate Range	0.1sccm~40slpm	**Maximum Operating Differential Pressure**	1500psig
Accuracy	±7.5% Base	**Repeatability**	±0.1%
Maximum Operating Temperature	460℃	**Helium Leak Rate**	$1x10^{-9}$cc/min
Seal surface dimension	1/4''VCR		

· PRODUCT FEATURE

- Compact structure, space-saving
- Customizable flow rate control by replacing gas resistance accessories
- ensuring reliable and long-lasting flow rate control
- Suitable for high flow rates, high temperatures, and high-pressure environments
- Reduces gas flow burden, prevents clogging, and promotes laminar flow formation
- All-316L stainless steel construction, free from structural bending or particle shedding
- ensuring a long service life
- 100% helium leak detection passed

· EXTERNAL DIMENSIONS



· FLOW AND PRESSURE DATA TABLE

Medium	Pressure	Flow rate
Argon	15psi	15ml/min
		10ml/min
		100ml/min
		20ml/min
		110ml/min
Air	2psi	16ml/min
	2psi	300ml/min
	14.92psi	260ml/min
	14.5psi	550ml/min
	50psi	2.5L/min
Oxygen	35psi	2.5L/min
Air	1.5psi	100ml/min
	40psi	400ml/min
	18.85psi	300ml/min
	23.93psi	320ml/min
	0.05Mpa	1000ml/min
	19.42psi	40ml/min
	30psi	500ml/min
		250ml/min
		50ml/min
Hydrogen	5.5psi	20ml/min
		11-12ml/min
	15psi	30ml/min
		25-28ml/min
		45ml/min
	20psi	20ml/min
	15psi	10ml/min
	2.5psi	65-75ml/min
	3.5psi	65-75ml/min
	15psi	100ml/min
	0.05Mpa	20ml/min
		40ml/min
	15psi	30ml/min
	14.5psi	30ml/min
	21.8psi	10ml/min
	29psi	20ml/min
	14.5psi	20ml/min
		15ml/min
		30ml/min
	16psi	170ml/min
Air	40psi	300ml/min
	25psi	300-500ml/min
Hydrogen	25psi	30-50ml/min
Nitrogen	25psi	80ml/min
		20ml/min
	15psi	10ml/min